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Technology Insertion (TI)/Industrial Process Improvement (IPI) Data Base Documentation Book Volume, for WR-ALC/MANPSC (Bonded Honeycomb). This document contains detailed information about layouts equipment and processes for this RCC.

14. SUBJECT TERMS MAINTENENCE, DATABASE, TECHNOLOGY INSERTION, AIRCRAFT, AFLC, AF, EQUIPMENT, MANPSC, BONDING, HONEYCOMB CONSTRUCTION, HONEYCOMB STRUCTURES

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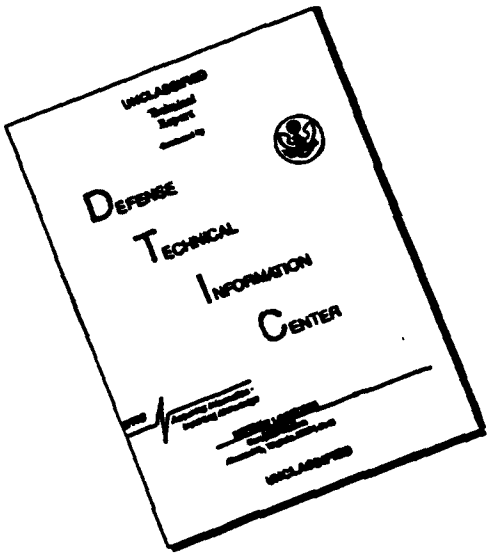

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TECHNOLOGY INSERTION-ENGINEERING SERVICES
PROCESS CHARACTERIZATION
TASK ORDER NO. 1
(BLOCK 1)

DATABASE DOCUMENTATION BOOK

WR-ALC

MANPSC

CONTRACT SUMMARY REPORT
14 AUGUST 1989

CONTRACT NO. F33600-88-D-0567
CDRL SEQUENCE NO. B008

MCDONNELL DOUGLAS
McDonnell Douglas Missile Systems Company
St. Louis, Missouri 63166-0516 (314) 232-0232

TABLE OF CONTENTS

WR-ALC (MANPSC)

1.0 Identification of RCC

Resource Control Center (RCC) MANPSC has been identified by the Statement of Work (SOW) of Contract F33600-88-D-0567, Technology Insertion Engineering Services, Cure Notice Response for Task Order No. 1, for Process Characterization.

(Resource Control Center)

2.0 General Information

MANPSC is an RCC with MANPS section of the Industrial Products Division (MAN) at WR-ALC. MANPSC is located in Building 169.

The primary workload in MANPSC consists of MISTR work consisting of some adhesive bonding work and conventional sheet metal work, namely; C-141 AFT Cowling, C-141 Thrust Door, C-130 Cowl Scoop, C-130 Elevator, and C-130 Flaps.

MANPSC will be discussed in more detail in the following Section 2.1 through 2.8.

2.1 Facility Layout Drawing

The facility layout drawings of Building 169 represent the existing As-Is condition.

The drawings entitled Master Shop Layout File Building 169 were updated as of April 1989 and are of good quality.

2.2 Equipment

MANPSC is comprised mainly of conventional sheet metal and certain specialized composite material fabrication equipment. MANPSC has large assembly and check fixtures, rivet installation holding fixtures, fixed tables and dollies, overhead lifting cranes, transport dollies, drying ovens, autoclaves, necessary equipment for autoclave support, and other ordinary support equipment.

MANPSC also has the normal sheet metal equipment to support the MISTR workload such as hand brakes, hand formers, drill press, band saw, hole punch, bench grinder, as well as all the rivet driving and upsetting tools necessary to support the numerous type of fasteners used in repair/overhaul work.

The majority of the equipment within MANPSC varies in age between ten and twenty years old, with some forty years old or older. The majority of the equipment is in good working and usable condition.

New, replacement pieces of equipment are being planned for purchase within the next ten years.

A listing of all equipment for MANPSC can be found in the Equipment Profile List of Section 5.0.

2.3 Workforce

MANPSC has a less than adequate workforce. Other RCC areas such as the F-15 Wing Repair has priority over the MANPSC work and has drawn a few people from the MANPSC effort. The remaining workforce is well trained and well supervised. Personal interviews and the interviewees attendance at several "QP 4" meetings has indicated a sense of professionalism and pride among the workforce.

The workforce is comprised mainly of Aircraft Sheet metal Mechanics of three basic classifications; namely, metal bond, autoclave, and the general sheet metal type, two foreman classifications, one leader-in-training, a secretary, a tool and parts attendant, and worker trainee.

The following constitutes a listing of the available manpower within MANPSC.

Skill Code	Skill Level	Quantity	Experience	
48127	WS-14	2	20	Foreman 14
47886	WS-10	2	15	Foreman 10
9A014	WS-10	38		Mechanic A/C
9A012	WS-08	50		Sheet metal worker
10860	WS-05	5		Mechanic helper
9A075	GS-05	2		Sheet metal worker
48913	GS-03	1		Secretary

2.4 Repair Process Technologies

The repair process technologies within MANPSC consists of major unit manufacturing and small sheet metal conventional, honeycomb bonded and composite repairs on HIGH-VALUE C-141 and C-130 major aircraft assemblies. These assemblies are critical to flight safety and the performance of the aircraft in their assigned mission.

All of the aircraft assemblies to be inspected and repaired are received in Building 169 and are disassembled as required per the applicable Technical Order for inspection/repair/modification. They are reworked to incorporate all the aircraft modifications and Technical Order changes to meet the required configuration for the aircraft.

The sheet metal and composite components are repaired to a serviceable condition, otherwise are replaced with new parts. The repairs may consist of removing local corrosion, replacing damaged sections and those sections with major corrosion, replacing angles, brackets, rivets, fabricating special repair plates, etc. to repair damaged members of the minor or major structural component of the unit.

2.5 Workload Volume and Mix

The workload within MANPSC consists entirely of Management of Item Subject to Repair (MISTR) items.

2.6 Material Handling

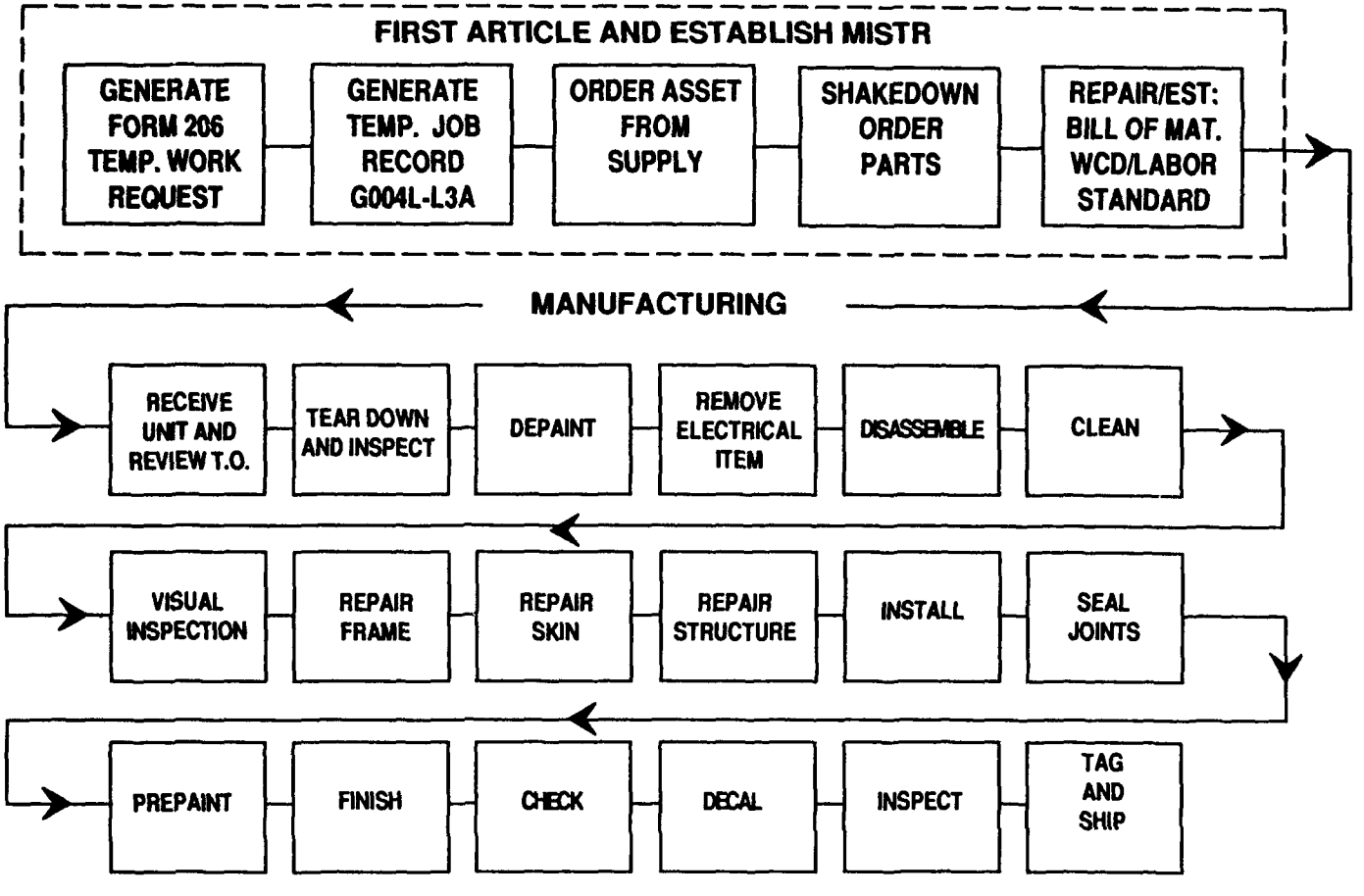
Material handling in MANPSC involves the use of overhead cranes, slings, manpower, holding and transport dollies and work carts.

All the large and heavy items such as the C-130 Elevator and the C-130 Flaps, etc. are loaded into and out of the check and assembly jigs and fixtures by the use of cranes and slings. Some of the assemblies over by "manpower" requiring several workers to accomplish the task. Some of the assemblies are moved and/or flip-flopped or taken in and out of the jig or fixture as much as six or seven times before completion.

All work is moved, as required, by the mechanic workforce. Some moves are made by the overhead crane and sling, but the majority of material handling is by manhandling or by work dollies with wheels.

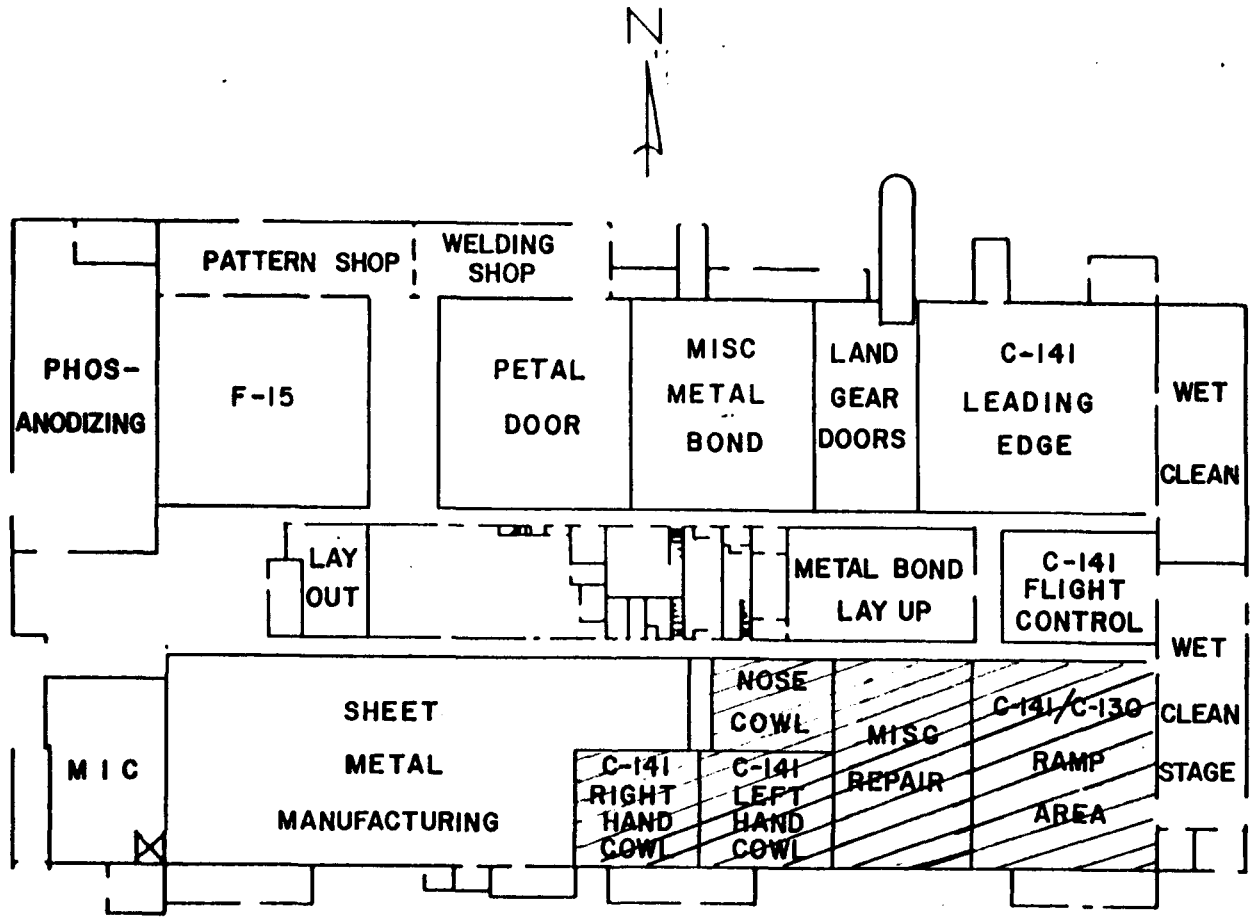
2.7 Storage

The only dedicated storage in the MANPSC area is several parts handling and storage bins in the general areas. Large assemblies are stored within the work area, making it difficult to work. The large items not being used should be returned to outside storage and not in Building 169. The flap assemblies and other large, bulky items are normally stored in wooden crates outside the MANPSC area.

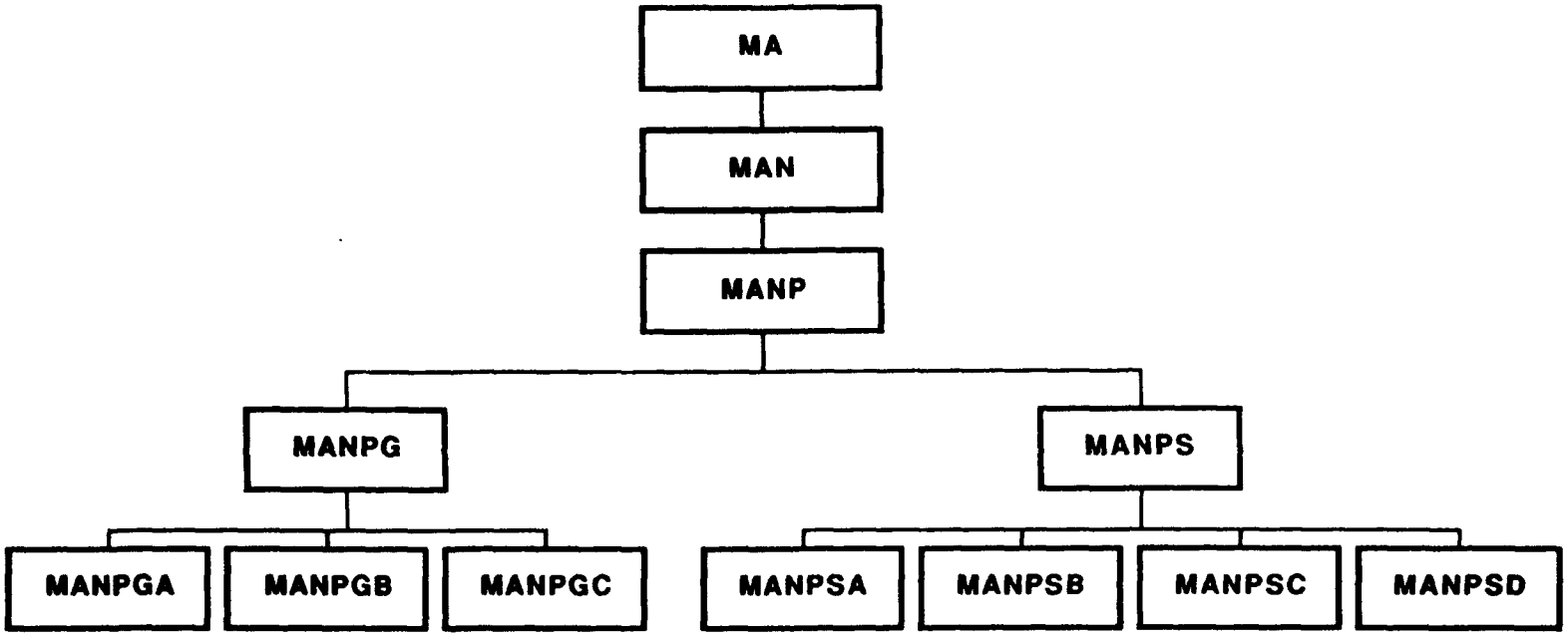


WR-ALC MANPSC PROCESS FLOW CHART
FIGURE

LSC-20233



BLDG 169 MANPSC



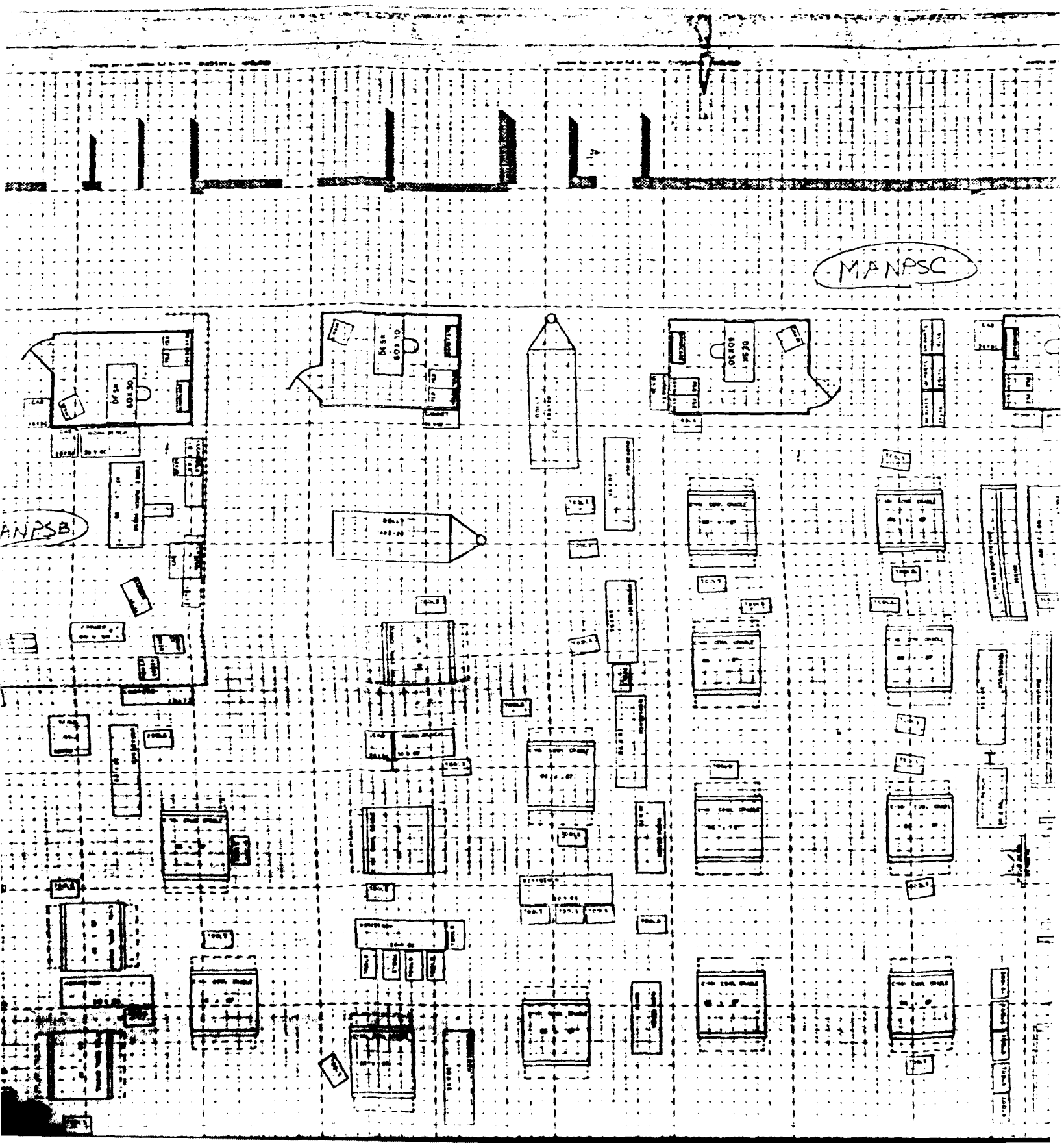
LEGEND:

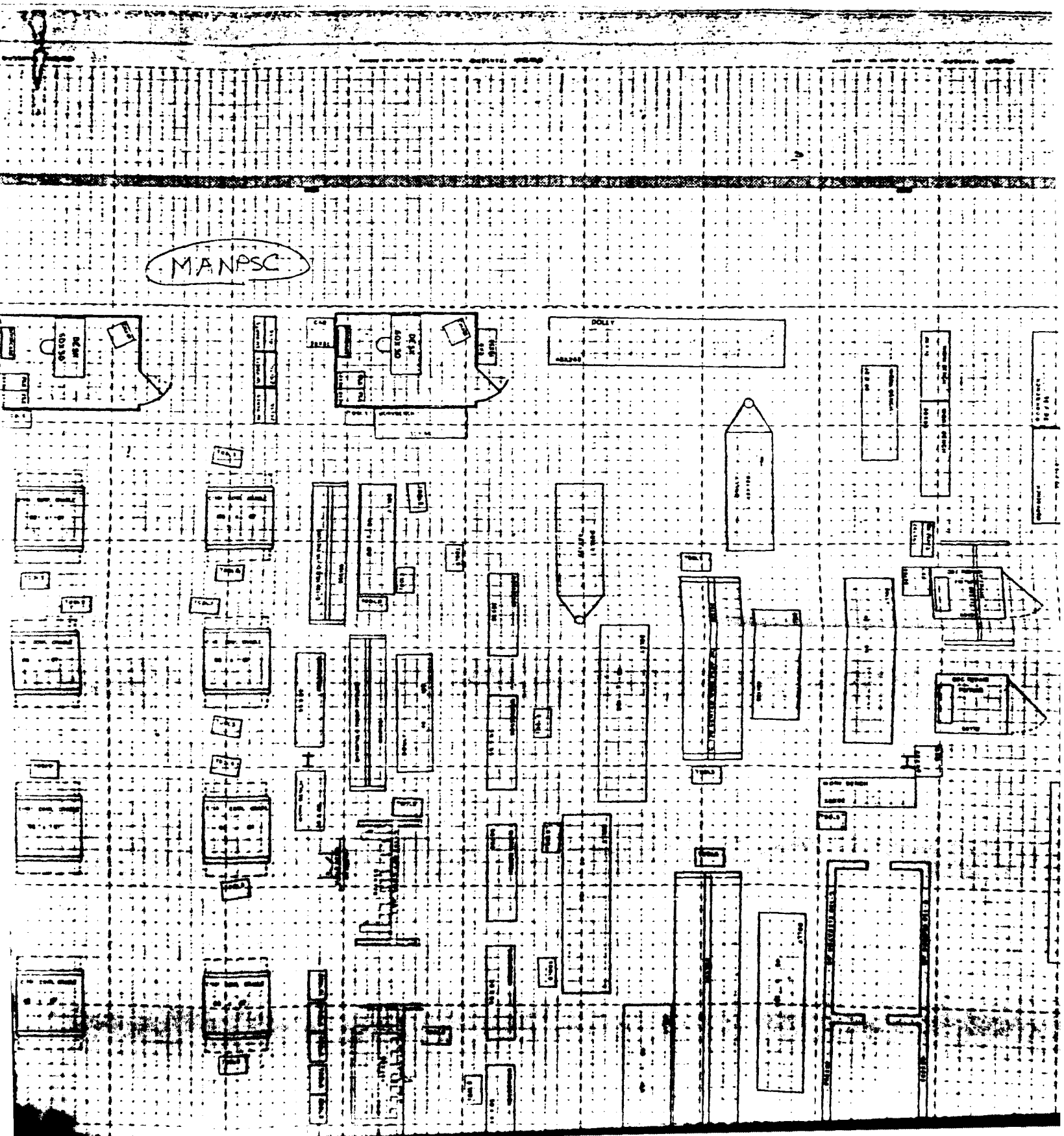
MA = DIR. OF MAINT.
MAN = INDUSTRIAL PRODUCTS DIVISION
MANP = PRODUCTION BRANCH
MANPG = GYRO SECTION
MANPGA = GYRO REPAIR UNIT NO. 1
MANPGB = GYRO REPAIR UNIT NO. 2
MANPGC = GYRO REPAIR UNIT NO. 3
MANPS = SHEET METAL SECTION
MANPSA = ADHESIVE BONDING UNIT
MANPSB = SHEET METAL MANUFACTURING UNIT
MANPSC = SHEET METAL REPAIR UNIT
MANPSD = PLASTIC & MISC. SHEET METAL UNIT

LSC-20282

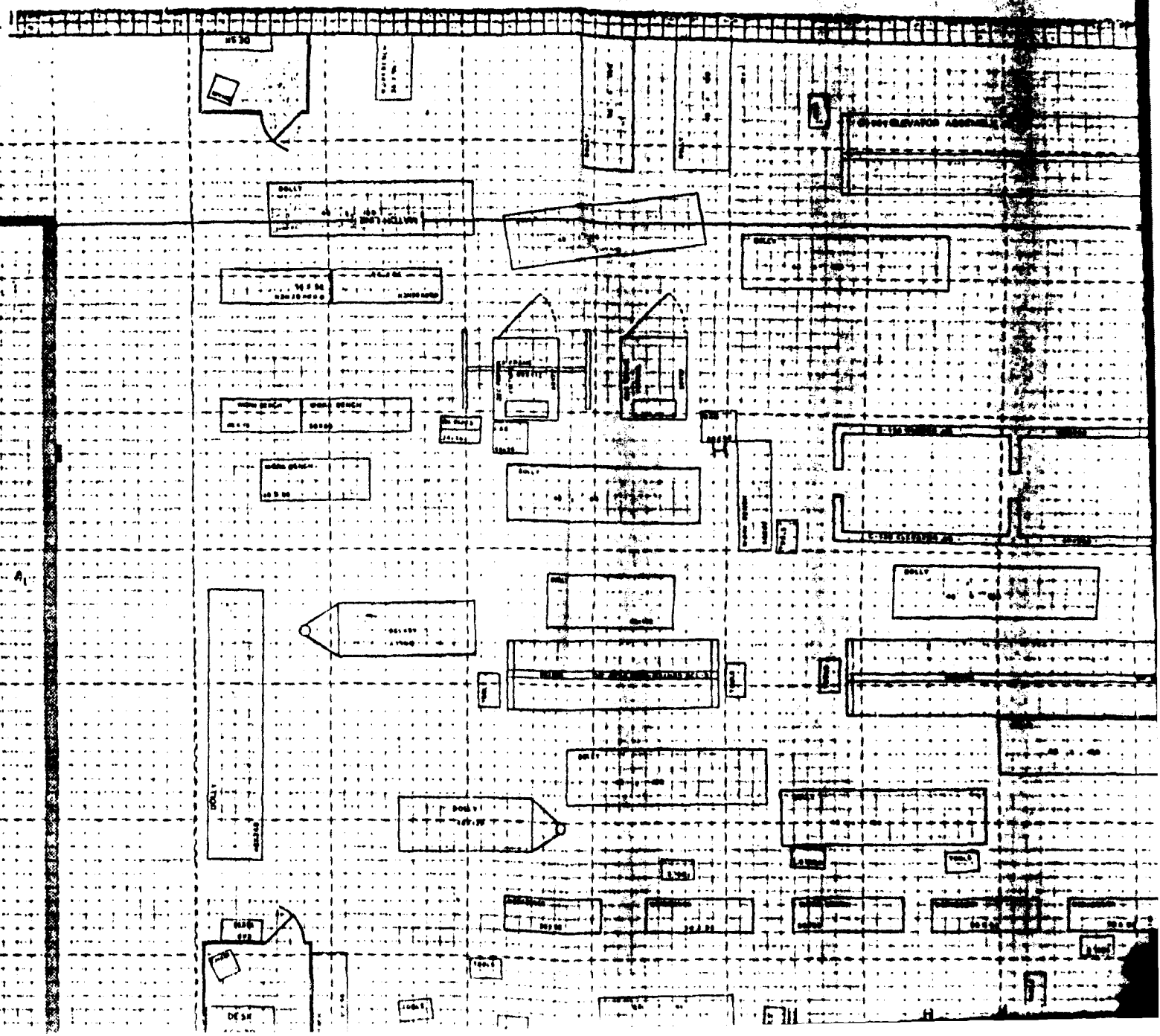
WR-ALC RCC PROCESS CHARACTERIZATION COVERAGE
FIGURE 9.0-1

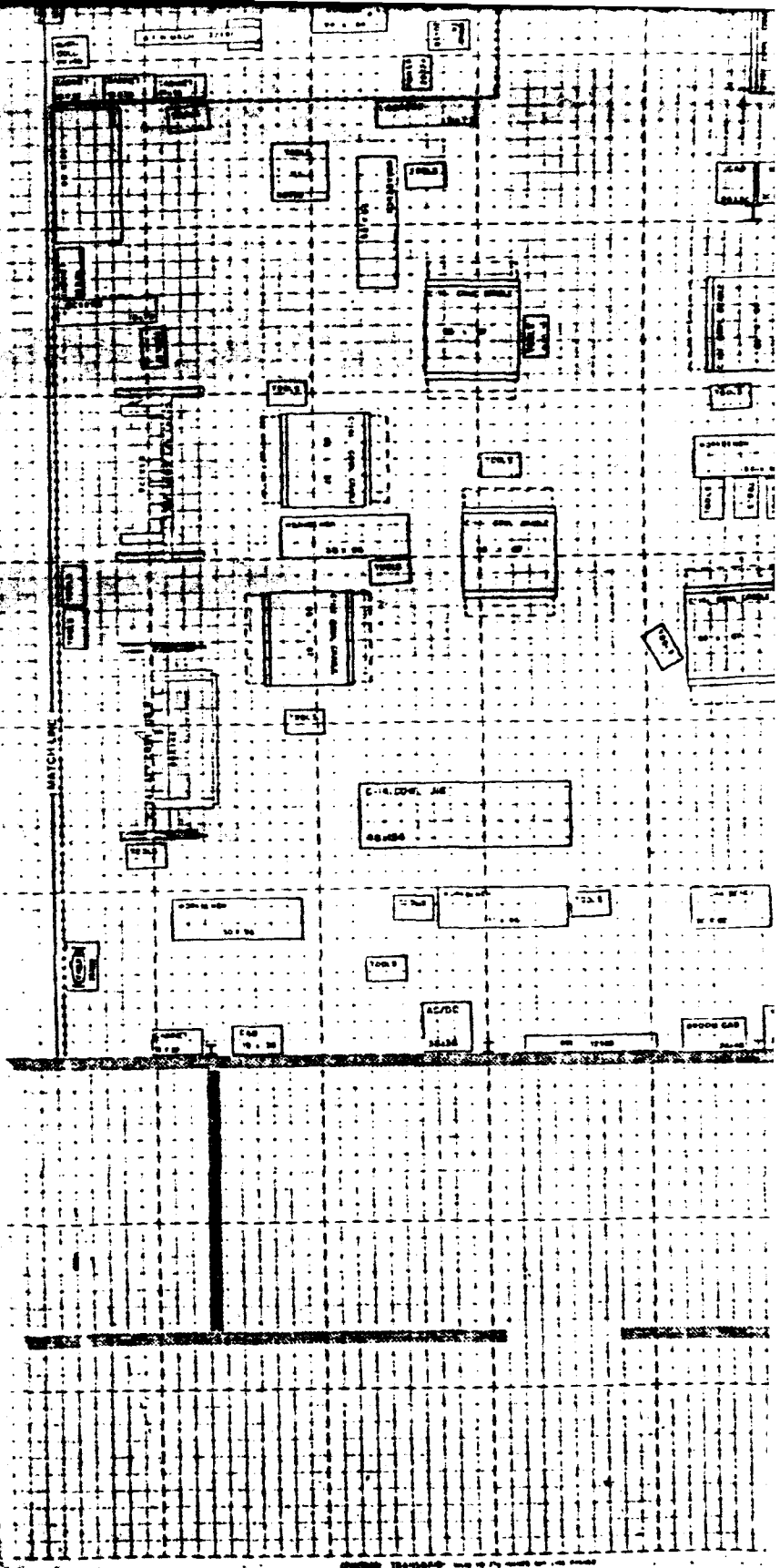
MANPSB

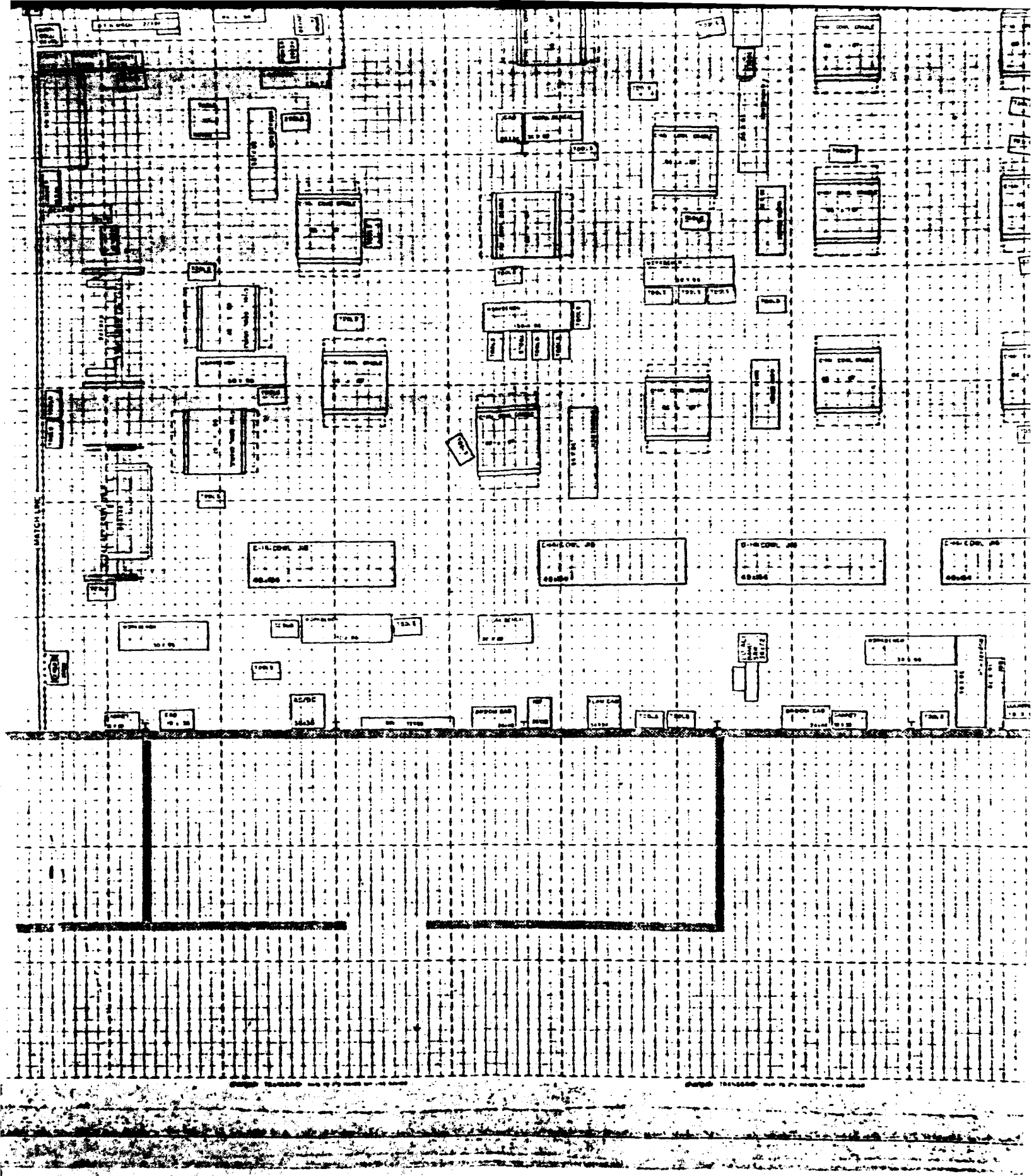

MANPSC
ANPSB

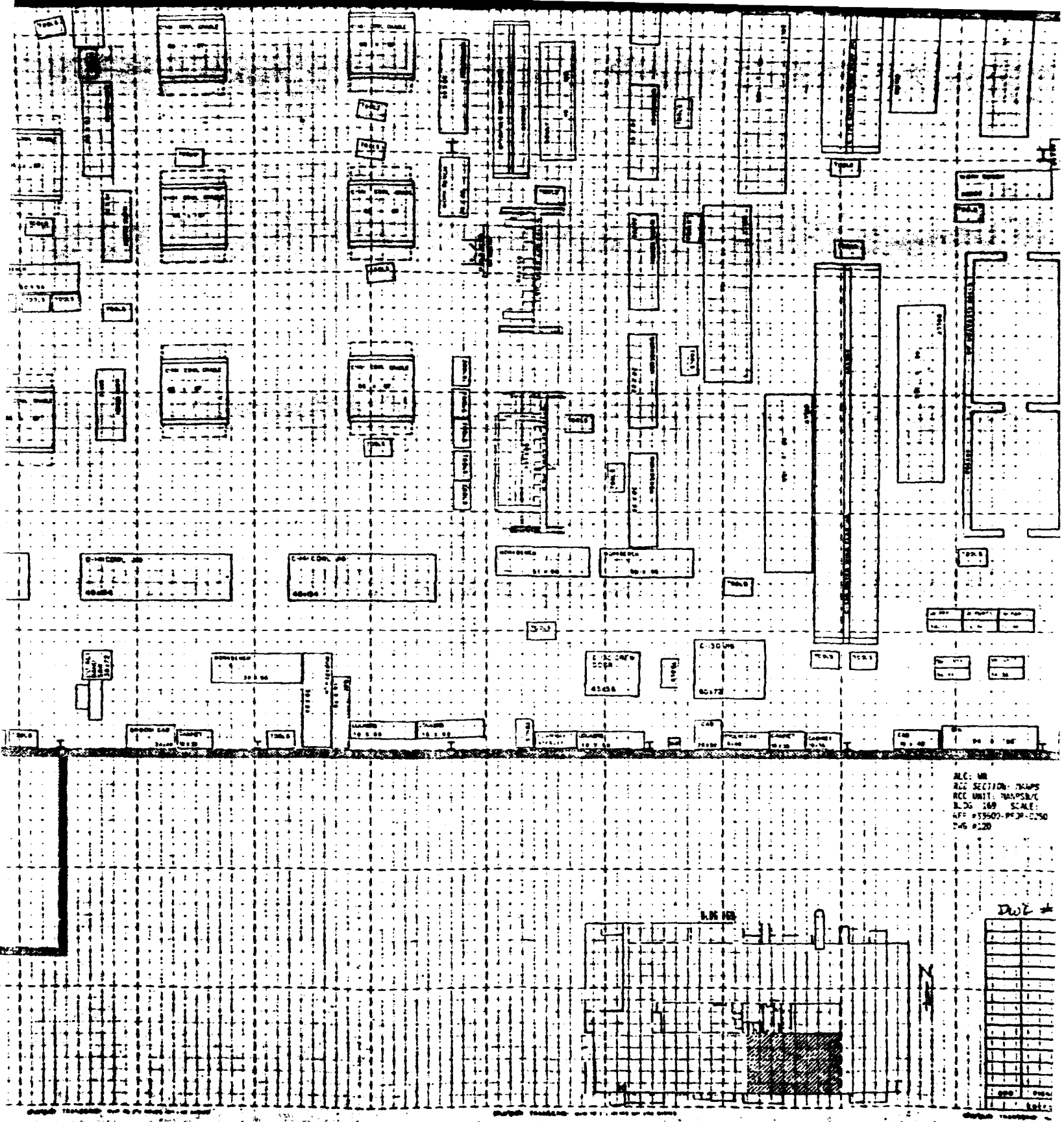

MANPSC
DOLLY

B-169 SOUTHEAST CENTER




MATCH LINE
AC/DC




ALC: MR
RCC SECTION: TRAMPS
RCC UNIT: TRAMPS B/C
BLDG 169 SCALE:
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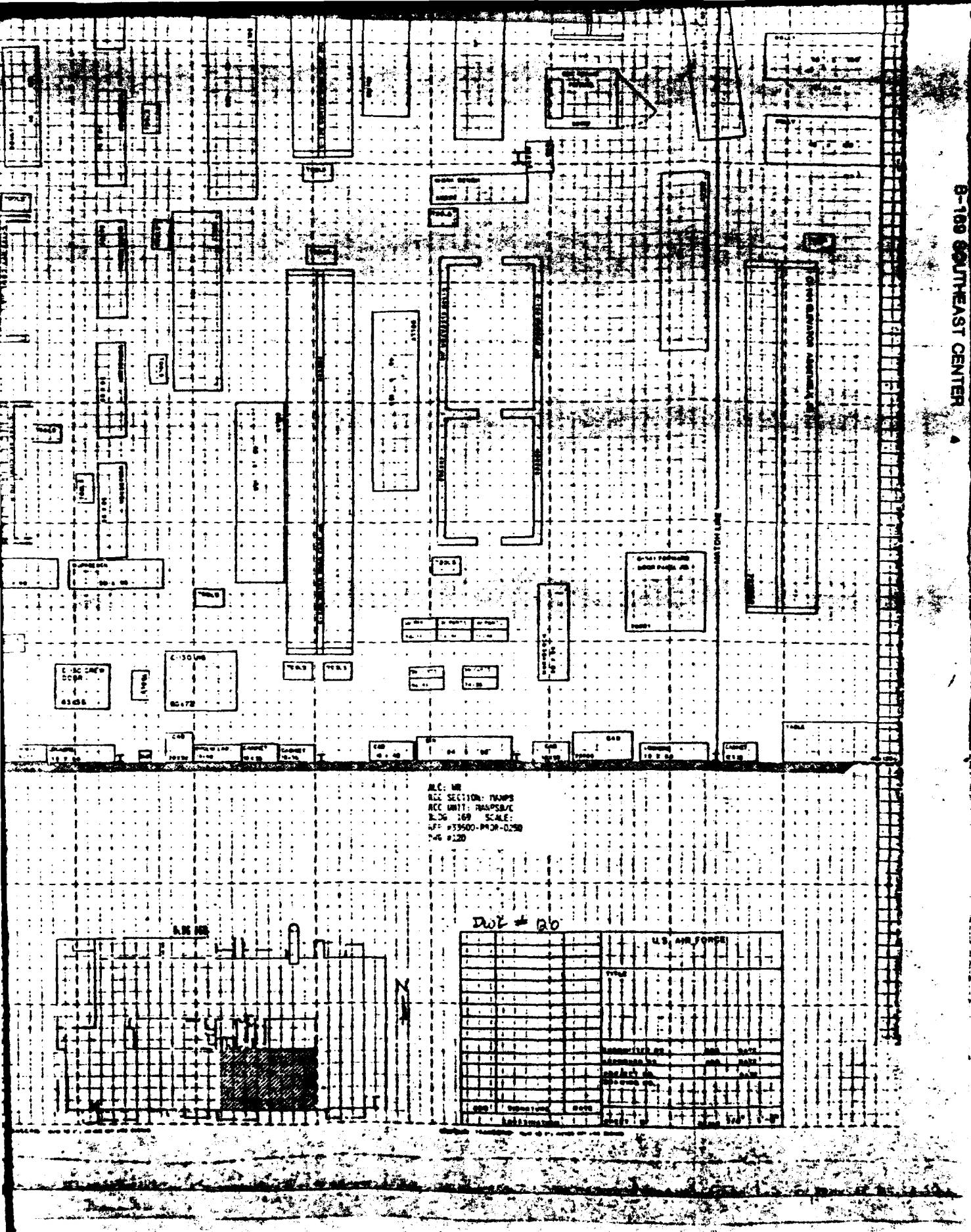
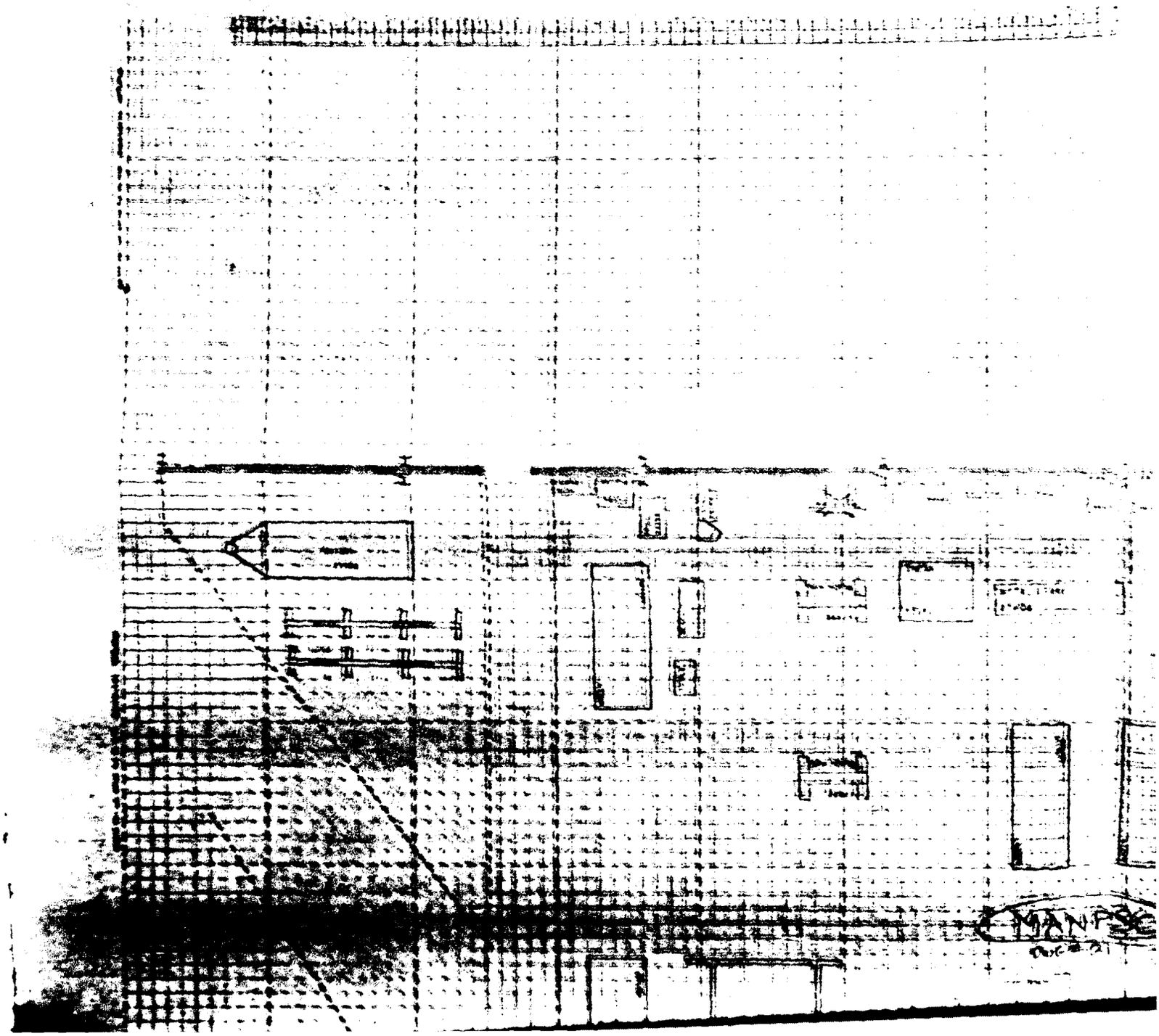
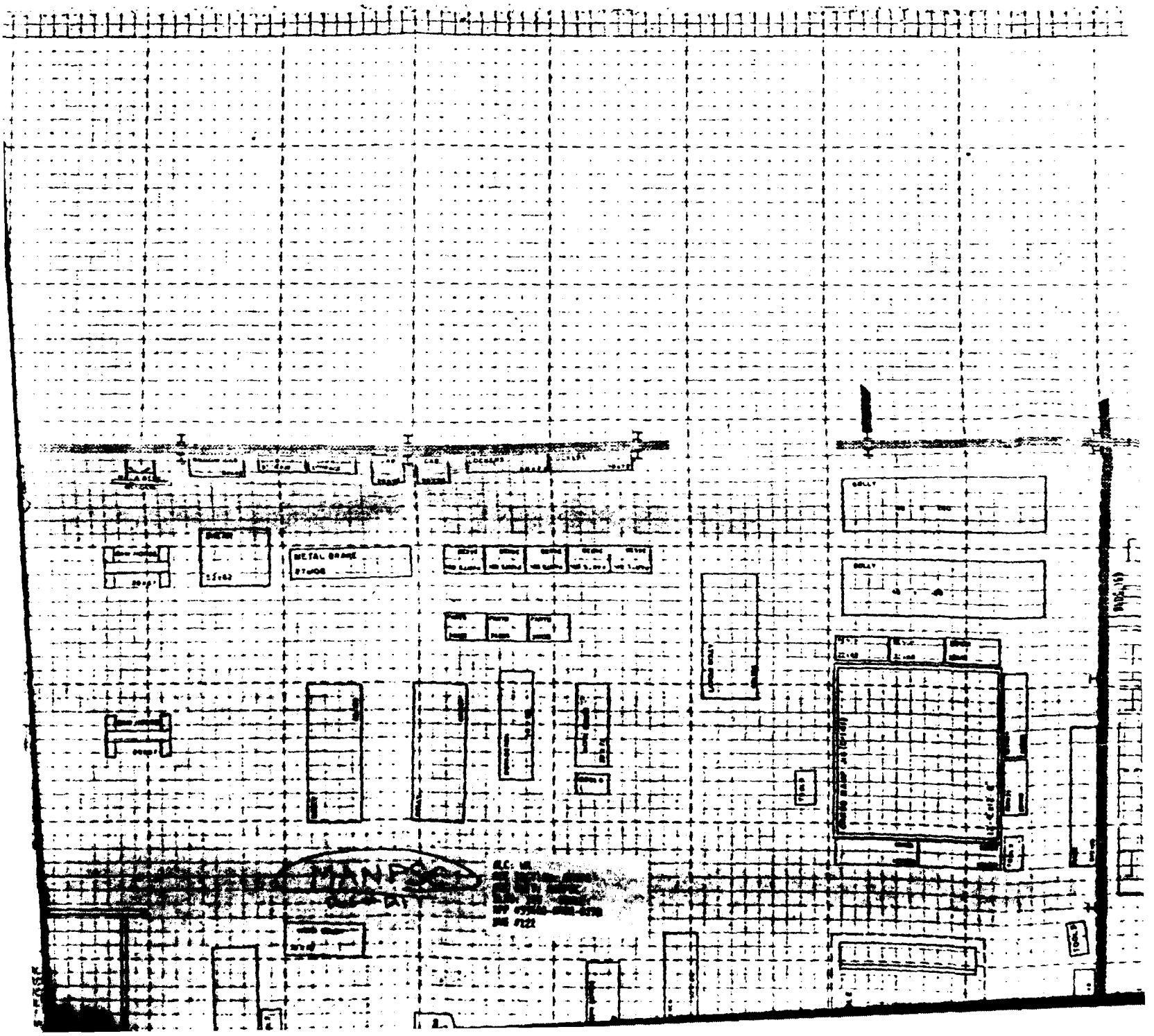
PAG #220
BLDG 169
N

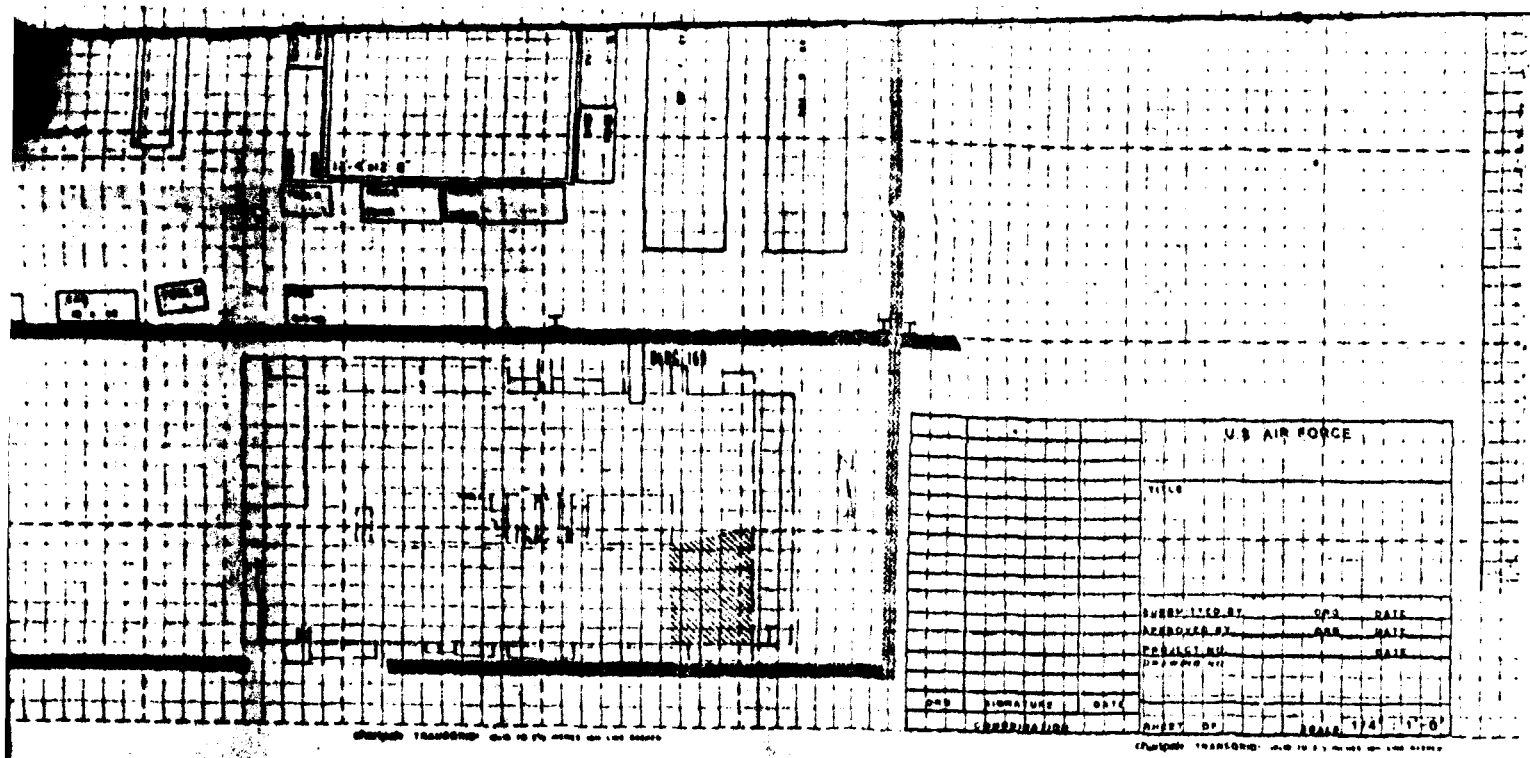

B-169 SOUTHEAST CENTER
ALC: MR
ALC SECTION: MAMPS
ACC UNIT: MASPSB/C
BLDG 169 SCALE:
WFF #33600-PMOR-0250
TAG #120
Dwt # 26
U.S. AIR FORCE
N

B-169 SOUTHEAS



B-169 SOUTHEAST CORNER 3

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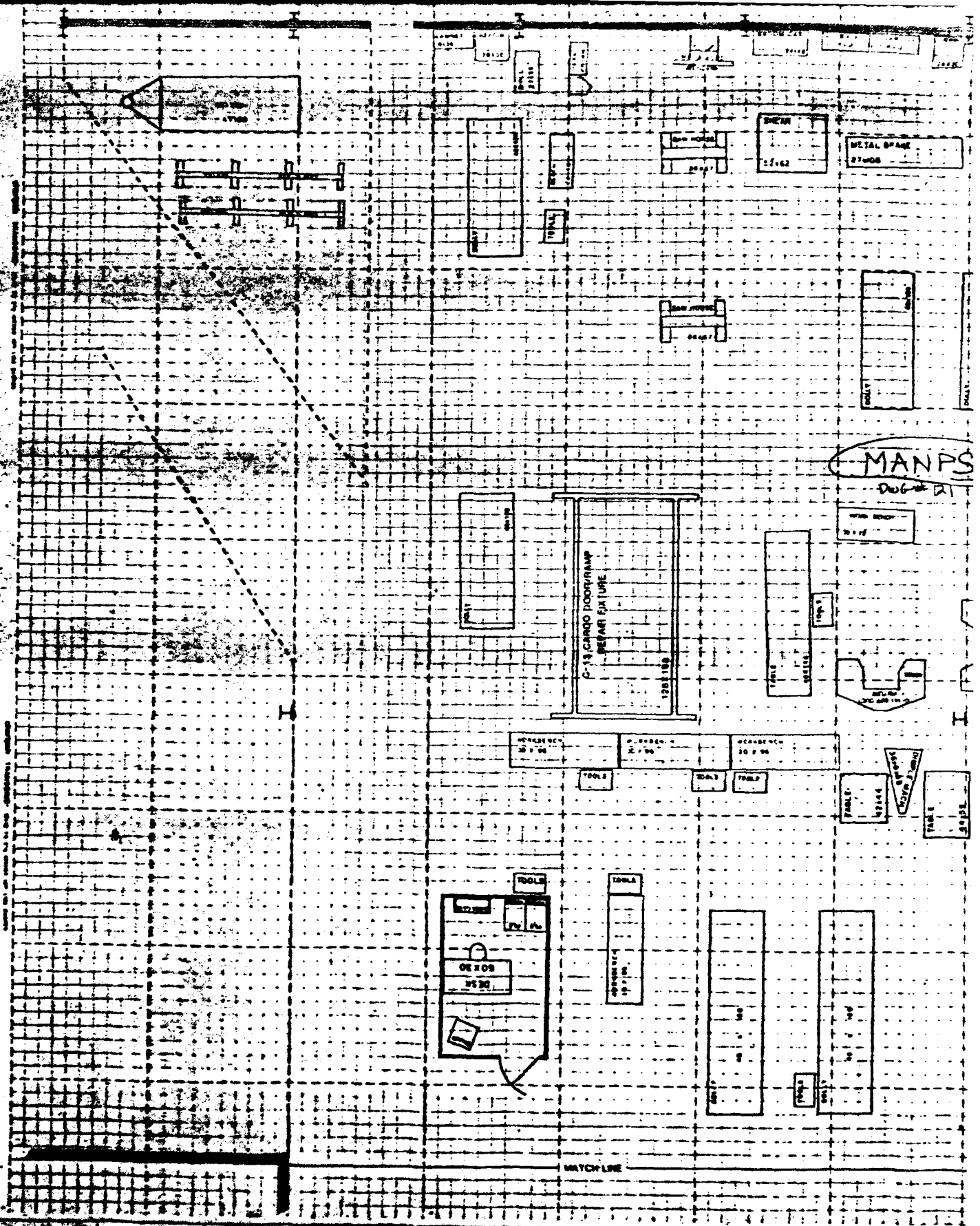
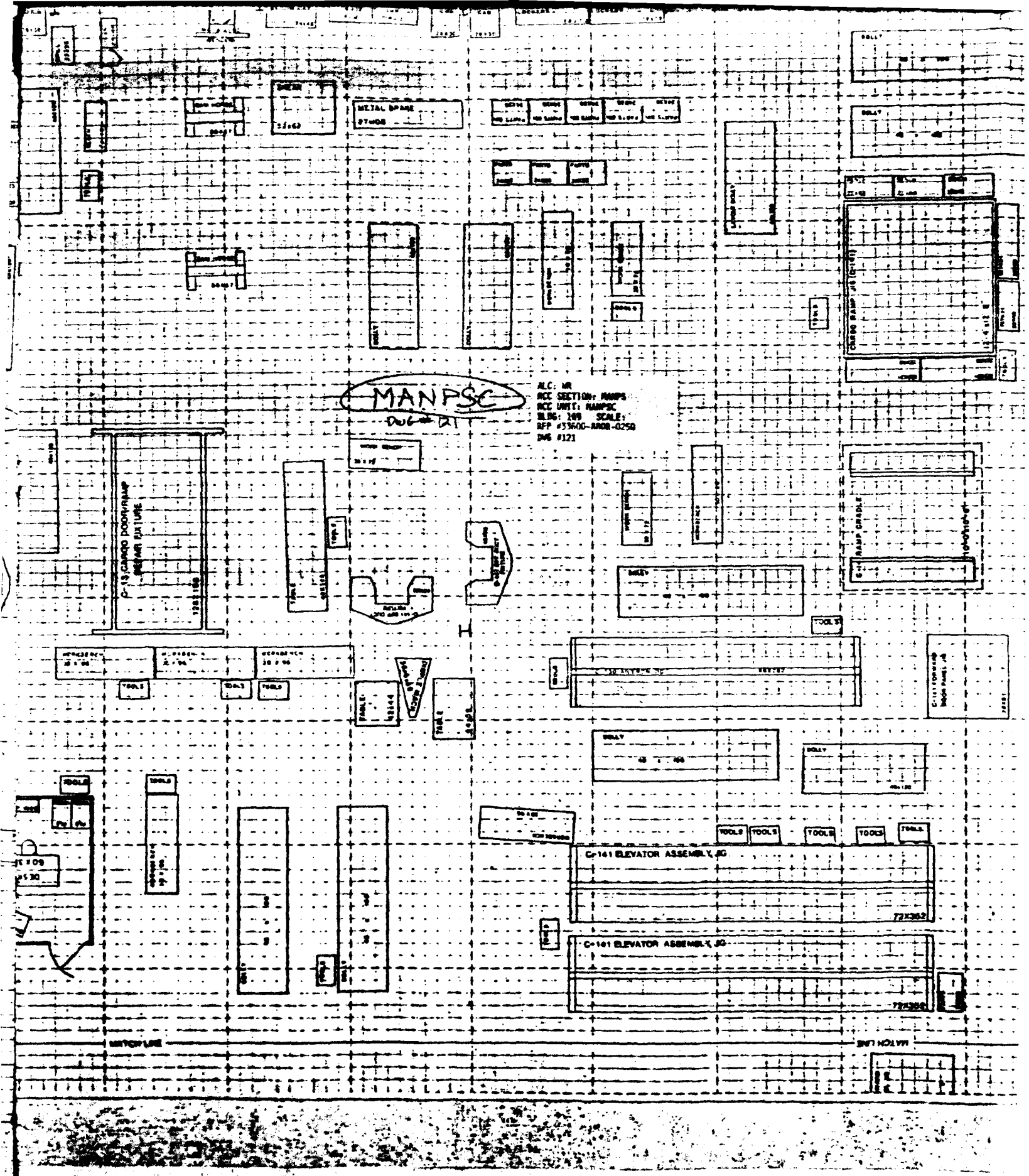
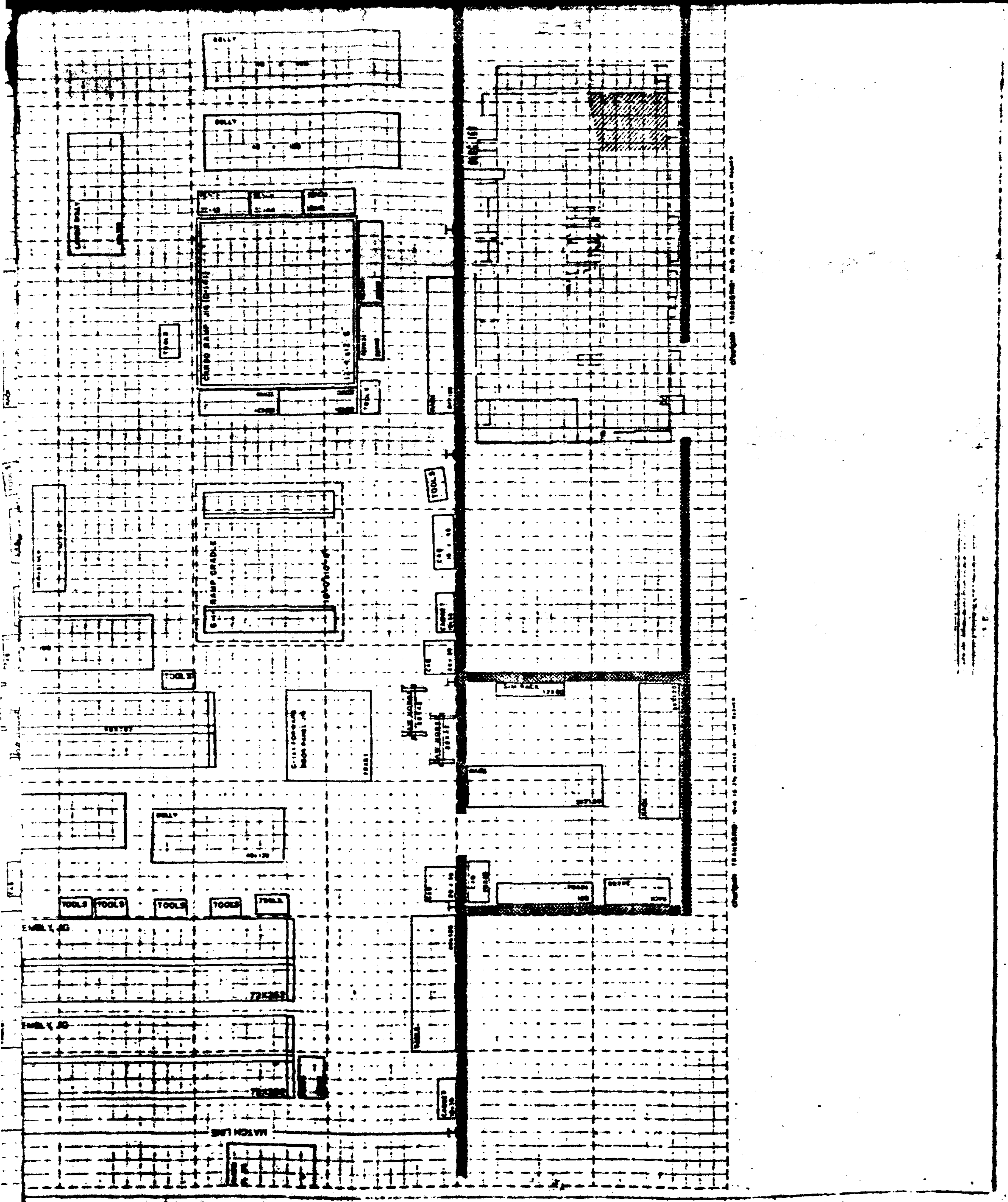
SHEET OF
SCALE


SHEAR
METAL BRAKE
MANPS
C-13 CARGO DOOR/RAMP
REPAIR FIXTURE
TABLE
TOOLS
MATCH LINE


MANPSC
Dwg #121
ALC: MR
RCC SECTION: MAMPS
RCC UNIT: MAMPSC
BLDG: 249 SCALE:
RFP #33600-AR08-0250
DWG #121
METAL BRAKE
C-141 ELEVATOR ASSEMBLY JIG
C-141 ELEVATOR ASSEMBLY JIG
MATCH LINE
MATCH LINE


DOLLY
DOLLY
CARGO RAMP JIG
RAMP CRADLE
TOOLS
TOOLS
TOOLS
TOOLS
TOOLS
TOOLS
DOLLY
EMBLY JIG
72X360
EMBLY JIG
72X360
MATCH LINE
CHAIN HOIST
CHAIN HOIST

```
**    ALC - WR     RCC - MANPSC     MODEL WORKLOAD FILE     7/ 5/1989
06692A             MB014Y      0  4  55  27  49  49              186.80    297.20  0A
C-141             .0        .0        0       .0000      .0000        0    .870     B
06692ASUBA         MBA14Y      0  4   0   0   0   0                .00       .00  0A
C-141             .0        .0        0       .0000      .0000        0 S .000     B
06692ASUBC         MBC14Y      0  4   0   0   0   0                .00       .10  0A
C-141             .0        .0        0       .0000      .0000        0 S .000     B
50164A             MB024D      0  4   4  14  12  12               61.10     69.80  0A
C-130             .0        .0        0       .0000      .0000        0    .048     B
50266A             MB021D      0  4   0   0   3   1              197.80    205.60  0A
C-130             .0        .0        0       .0000      .0000        0    .013     B
50454A             MB053D      0  4   1   3   3   5              158.30    277.50  0A
C-130             .0        .0        0       .0000      .0000        0    .054     B
50454ASUBA         MBA53D      2  4   0   0   0   0                .00      8.50  0A
C-130             .0        .0        0       .0000      .0000        0 S .002     B
50454ASUBB         MBB53D      0  4   0   0   0   0                .00       .00  0A
C-130             .0        .0        0       .0000      .0000        0 S .000     B
51402A             MB019Y      0  4   5   3   2   5               69.10     54.60  0A
C-141             .0        .0        0       .0000      .0000        0    .013     B
```

CONTROL NUMBERS BY RCC

RCC	C/N		NOUN	ORGHOURS	
MNPSA	51454A	51455A	PETAL DOOR	19105	
	01900A		BRAKEAER	9171	
6 4+2	51352A	51353A	DOOR	8342	
	51418A	51419A	LEADING	6480	43098
11/23 ADD	05502A	05503A	AILERON		
	51334A		HORZ. STABILIZER		
MNPSC	06691A	06692A	COWLING R&L	97484	
	50164A		SCOOP	9032	
	51402A		DR THRUST	3110	
5	50266A		ELEVATOR	2770	
	50242A (50454A)	50244A	FLAP	3504	110900
MNPSD	03172A		CANOPY	49719	
	51344A		NOZZEL	34626	
	09193A	F15	RADOME	21107	
7 6+1	41059A	C130	RADOME ASSY	9310	
	03427A		CANOPY	6900	
	40208A	C141	RADOME	5495	127157
11/23 ADD	51420A		LEADING EDGE		281155

SHEET METAL SHOP

RB 10/14/88

RCC	ORG HRS	80%	NO. OF HRS SELECTED FOR STUDY
MANPSA	53450	42760	43098 (81%)
MANPSC	144209	115367	110900 (77%)
MANPSD	156501	125200	127157 (81%)

CALCULATED FROM DOC. GOPC AS OF 22SEP88 FOR RCC MANPS AND ALLOCATED C/N'S FOR UNITS A, C & D.

RB 10/13

4.0 DATA COLLECTION*

Eight different profile data sheets were made available to the working group for collection of data. The eight different profile sheets are:

- Operation Profile
- Equipment Profile
- Manpower Profile
- Workload Profile
- Disassembly/Assembly Profile
- Parallel Process Profile
- "IN" Dates Profile
- "OUT" Dates Profile

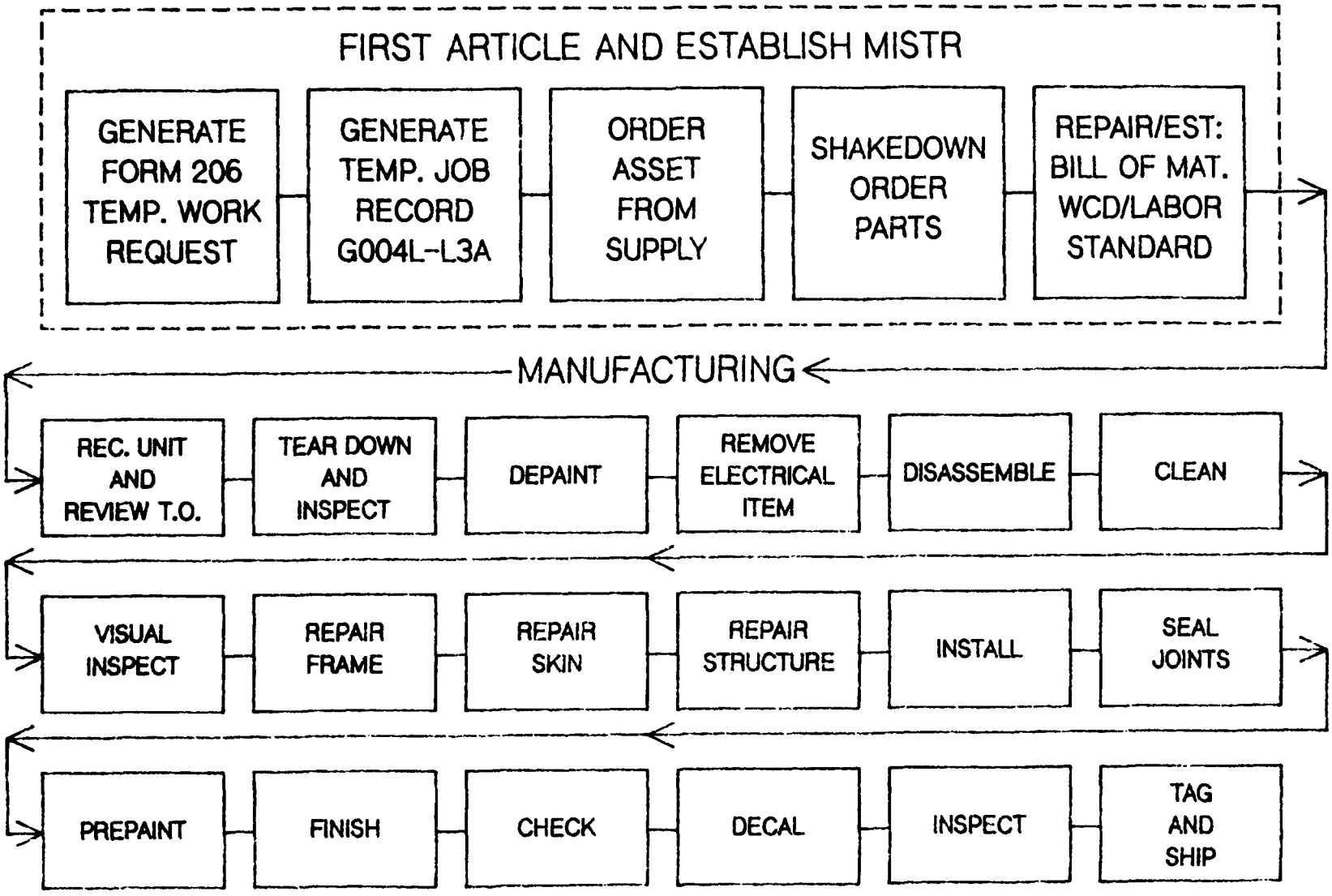
The data collected for each RCC was from shop interviews with the shop foreman, workleaders, mechanics and from appropriate ALC personnel. Collected data were compiled in proper profile sheet for that RCC.

4.1 DATA COLLECTION PROCESS

- Data was collected for C/N or M number as identified by the 80/20 Analysis for a particular RCC.
- The shop foreman was requested to identify the person most familiar with each C/N of the 80/20 Analysis.
- The person identified by the shop foreman was interviewed by the Data Collector or Collectors transferred the data to the profile sheets.
- The profile for each C/N was compiled into a notebook for a particular RCC.
- The data was scrutinized by the working group members for completeness and correctness.
- The data collected will be used to generate the model input for each RCC.

*Note: This procedure will be revised and updated as required.

MANPSC PROCESS FLOW CHART

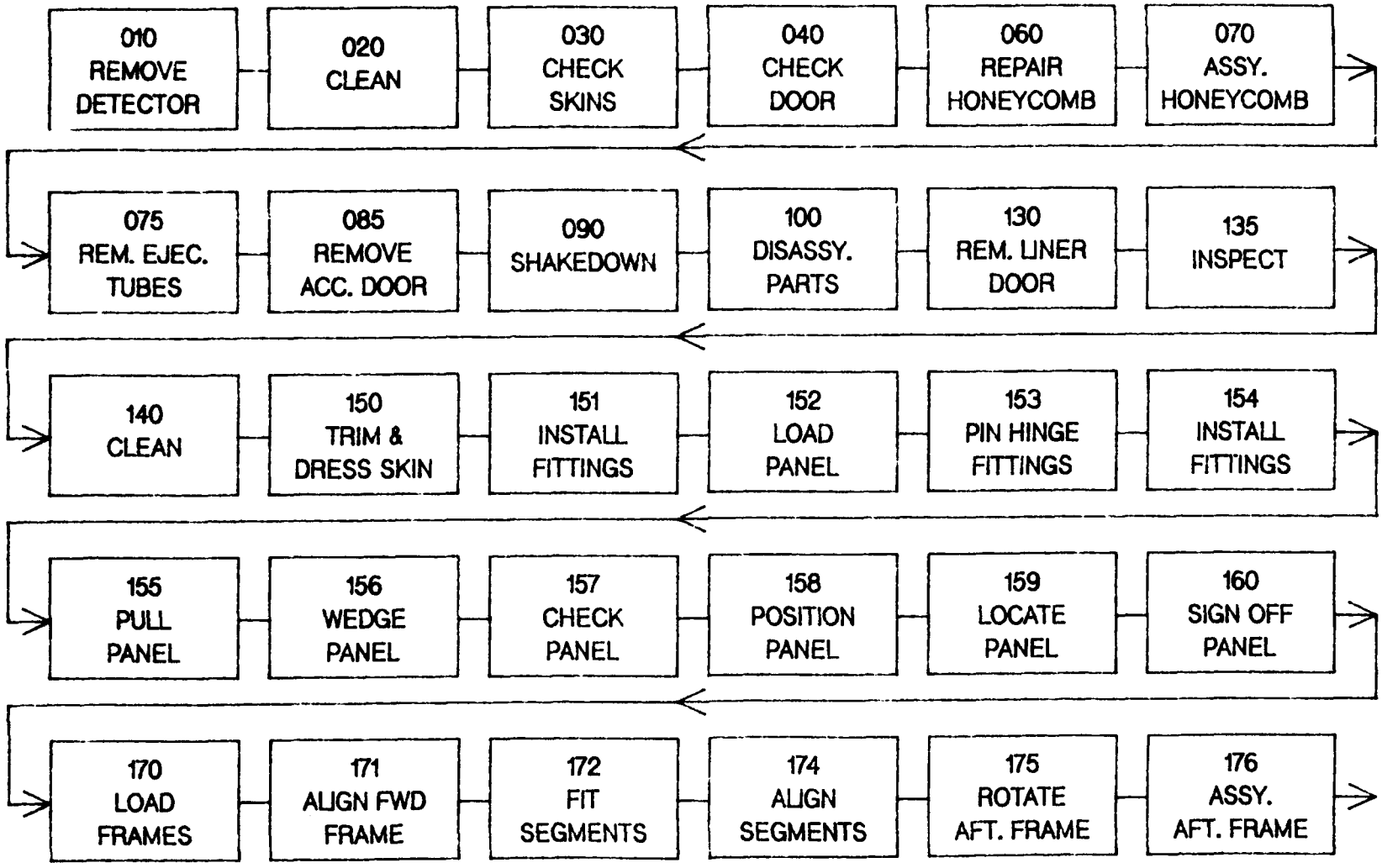


PROCESS FLOW CHART

WR-ALC
MANPSC

C/N 06692A
AFT. COWL

PAGE ONE

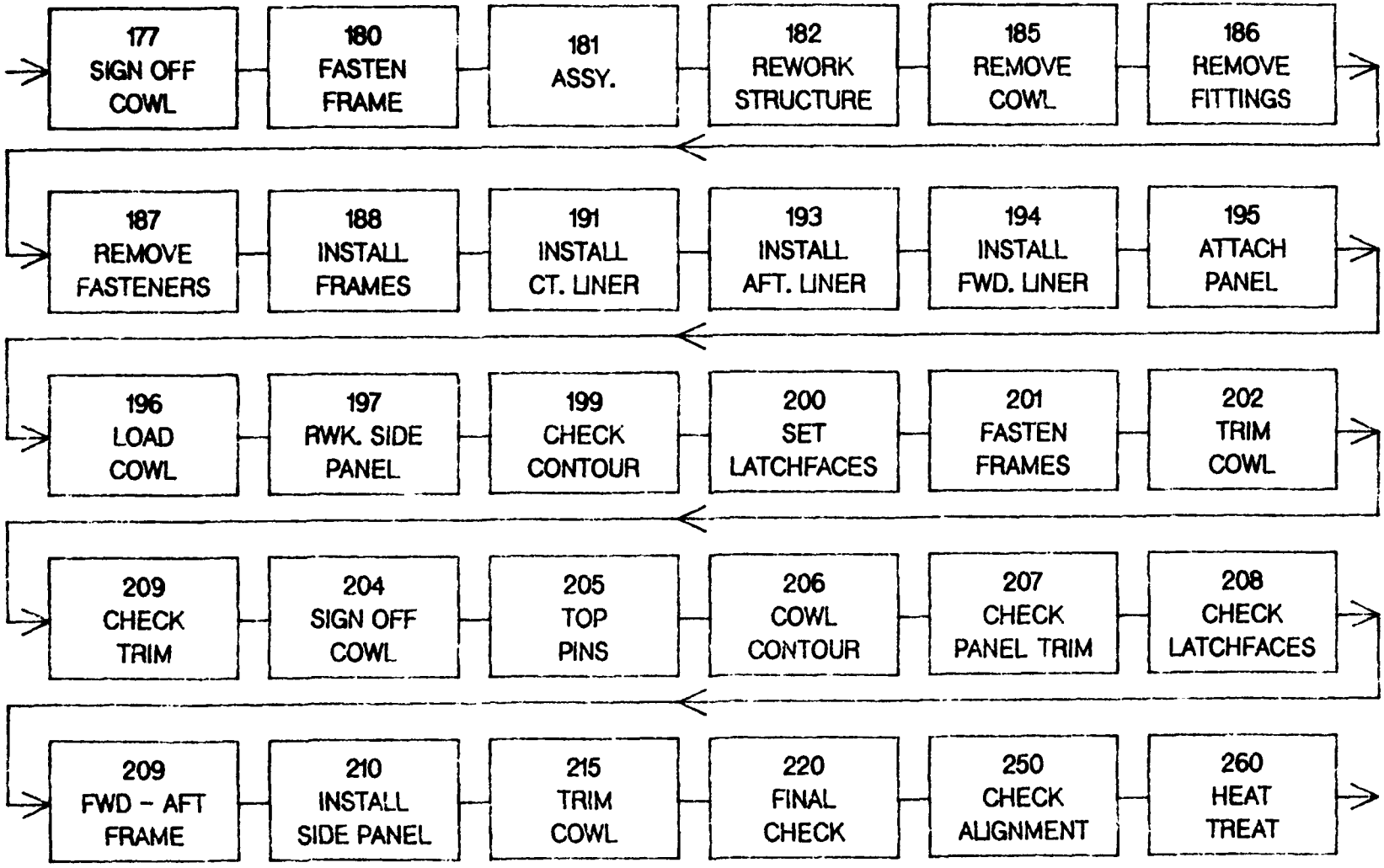


PROCESS FLOW CHART

WR-ALC
MANPSC

C/N 06692A
AFT. COWL

PAGE TWO

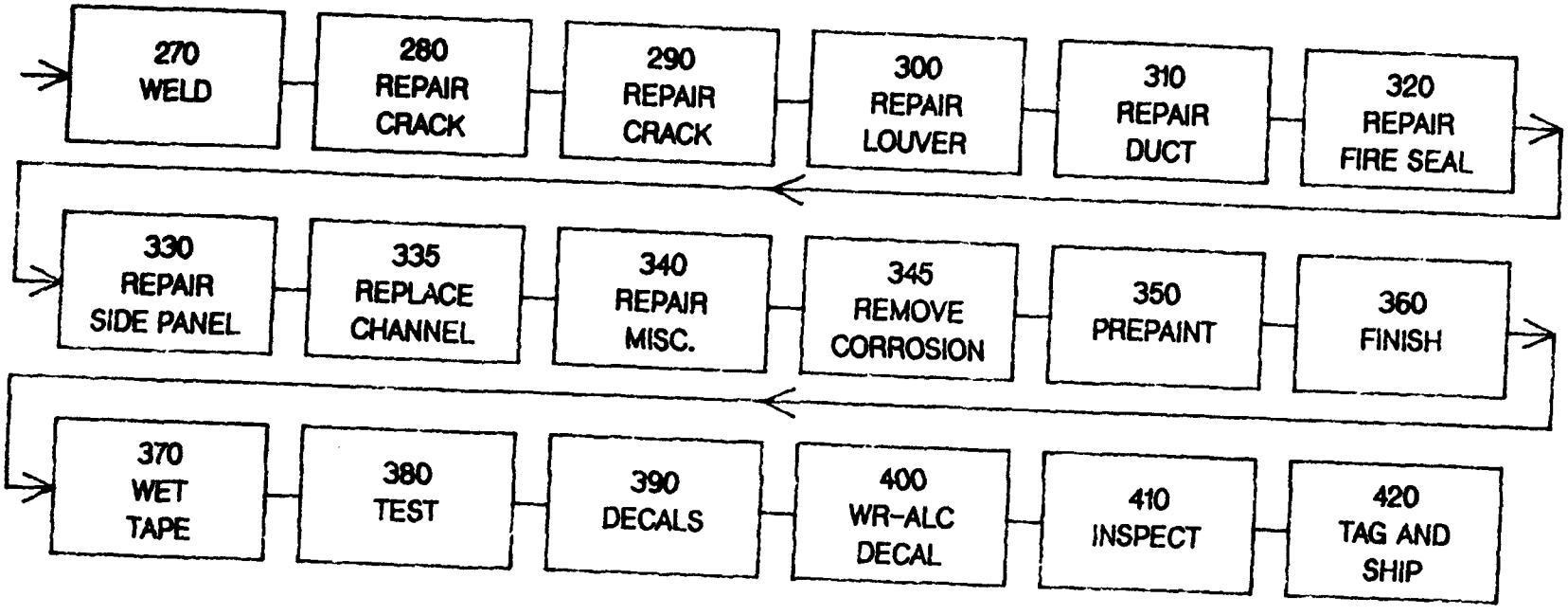


PROCESS FLOW CHART

PAGE THREE

WR-ALC
MANPSC

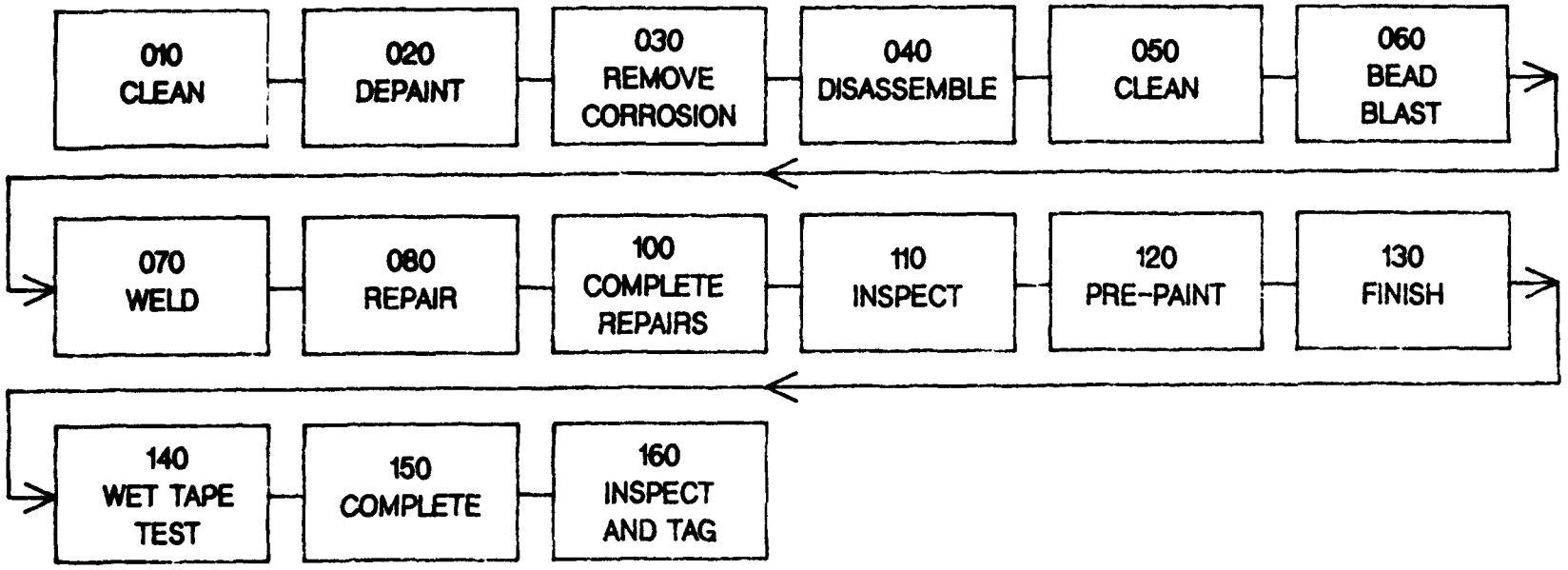
C/N 06692A
AFT. COWL



PROCESS FLOW CHART

WR-ALC
MANPSC

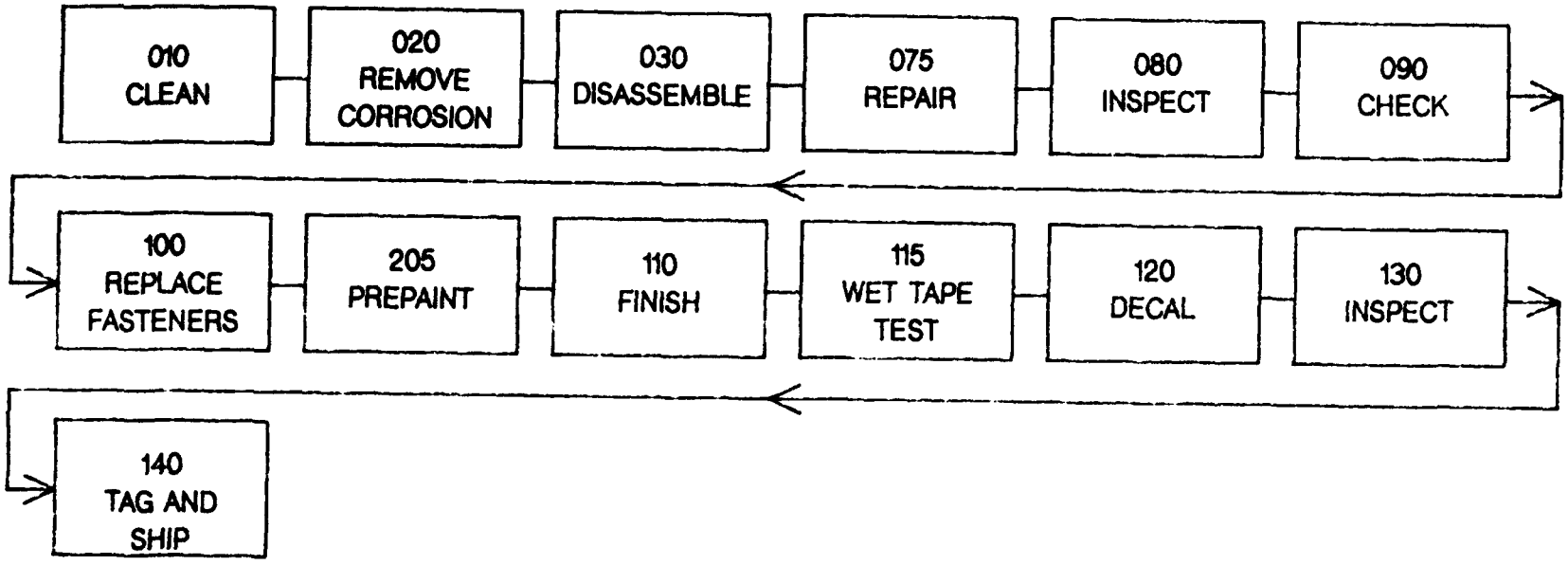
PCN #50164A
SCOOP



PROCESS FLOW CHART

WR-ALC
MANPSC

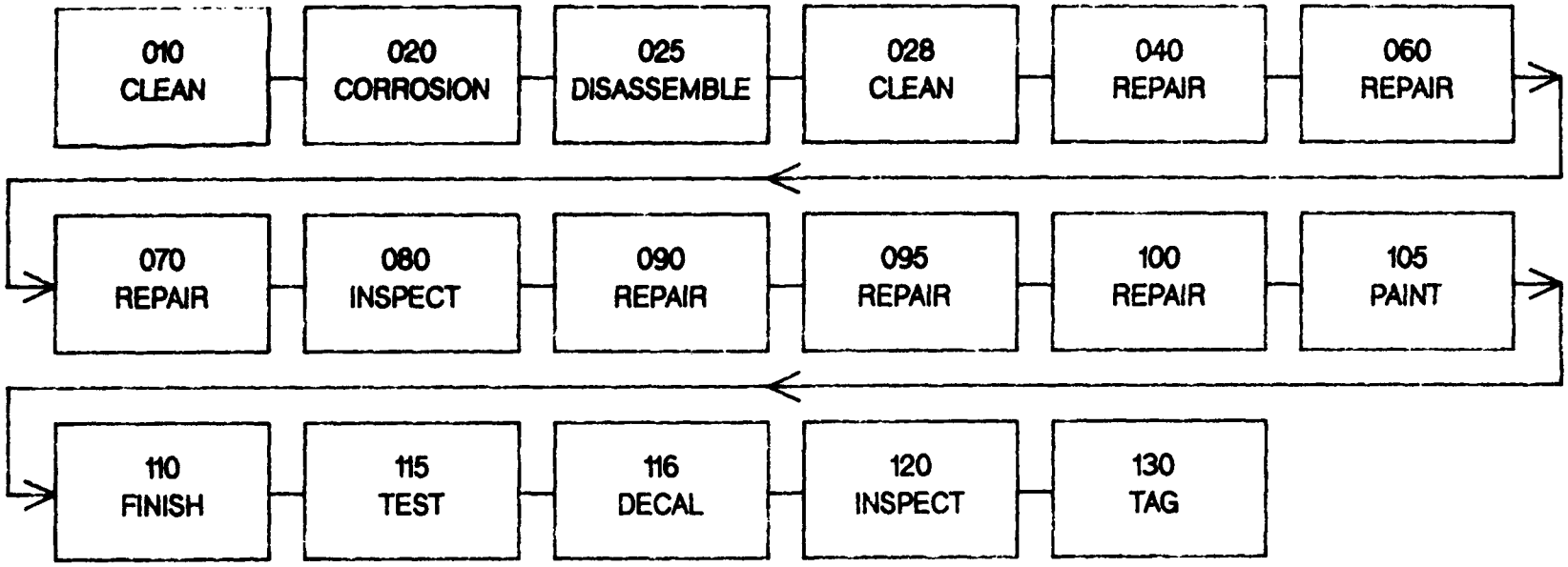
PCN #51402A
DOOR, THRUST REVERSER



PROCESS FLOW CHART

WR-ALC
MANPSC

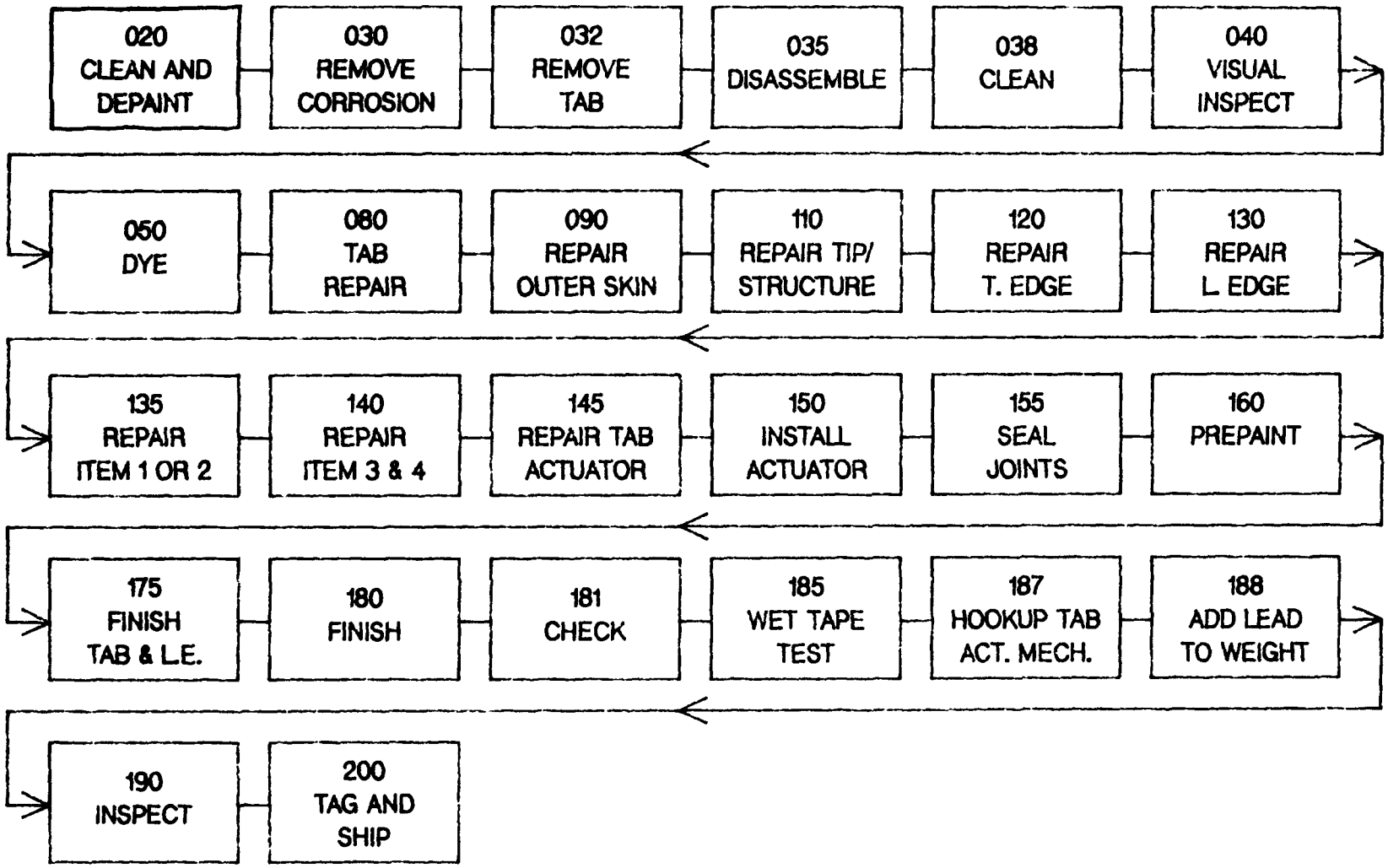
PCN #50454A
FLAP, CENTER WING



PROCESS FLOW CHART

WR-ALC
MANPSC

PCN #50266A
ELEVATOR



AFT COWL

PART NUMBER	STOCK NR	FSCM
3325548-30	5600115263730H	06691A
3325548-40✓	5600115263730H✓	06691A✓

	REMOVE FIRE DETECTOR SYSTEM	
MNPSCT	CLEAN, REPAIR REMOVE CORROSION	
MNPSAC	CHECK SKINS FOR HONEYCOMB DAMAGE	
MNPSAC	IF DAMAGE NOTED DO 0 REPAIR REQUIRED _____ P MINOR REPAIR _____ J MAJOR REPAIR _____ DO NOT REMOVE DOOR	
060 MNPSAC	REPAIR HONEYCOMB DAMAGE. N/A WHEN NEW SKIN IS REQUIRED.	
070 MNPSAC	ASSEMBLE REPAIRED HONEYCOMB PANEL AND PARTS. N/A WHEN NEW SKIN IS REQUIRED ROUTE TO MNPSCT.	
075 MNPSCT	REMOVE EJECTOR TUBES. ROUTE TO MNPMBJ ON WCD MBA14Y	
085 MNPSCT	REMOVE ACCESS DOOR. ROUTE TO MNPSAC FOR MINOR REPAIR ONLY. ATTACH SUPL WCD MBC14Y FOR MINOR REPAIR DOORS.	
090 MNPSCT	SHAKEDOWN FOR DAMAGE AND MISSING PARTS.	
100 MNPSCT	REMOVE COMPONENTS AS NEEDED FOR -3 REPAIR.	
130 MNPSCT	REMOVE FWD, AFT AND CENTER INNER LINERS, ACCESS DOOR, -652 SKIN PANEL FOUR SPLITTER VANES, UPPER AND LOWER DUCTS, FWD AND AFT STEEL FORMER, INTERIOR CLOSEOUT SKIN & 41	

		[illegible]			
		[illegible]			
[illegible]	1[illegible] MNPSCT	INSPECT & MEDRAW [illegible] PANEL INTERGRANULAR CORROSION ON ALL [illegible] PERIM COWLING. ROUTE ENTIRIVE CORRODED COWLING PARTS TO MNPCAT. ATTACH SUPPLEMENT SHEET M3014-[illegible]. REWORK ONLY			
[illegible]	1[illegible] MNPSCT	CLEAN COWL PARTS. REMOVE [illegible] PROTECTIVE COATING FROM NEW OUTER PANEL EXTERIOR. ROUTE TO MNPCT. REWORK ONLY			
[illegible]	1[illegible] MNPSCT	BEGIN PHASE I [illegible] TRI. I DRESS [illegible] (REWORK ONLY)			[illegible]
[illegible]	1[illegible] MNPSCT	INSTALL ALL FITTINGS INCLUDING CENTER HINGE FITTING ON THE PANEL WITH TWO SCREWS INTO THE PANELS THREADED INSERTS. NOTE: DO NOT DRILL ANY HOLES IN PANEL			3
[illegible]	1[illegible] MNPSCT	LOAD PANEL ON FIXTURE			3
[illegible]	1[illegible] MNPSCT	PIN TOP CENTER HINGE FITTING TO FIXTURE. USE SHORT L-PIN 3/8" DIA. THE L-PIN ALLOWS "FEEL" OF THE PIN'S TIGHTNESS DURING BUILDUP.			3
[illegible]	154 MNPSCT	INSTALL A MODIFIED CENTER HINGE FITTING IN THE TOP FWD INSERT POSITION ON THE PANEL			3
[illegible]	155 MNPSCT	PULL THE PANEL INTO CONTOUR USING A MINIMUM OF 5 CLAMPS FWD AND AFT, STARTING AT THE TOP OF THE PANEL AND WORKING DOWN.			3
169-29	156 MNPSCT	WEDGE THE PANEL IN PLACE FROM THE BOTTOM EDGE USING THE LOWER SLIDE LOCATOR FEATURE (X8526619) FWD AND AFT. IN ROHR FIXTURES USE C-CLAMPS ON BOTTOM TRIM BOARDS.			3
169-29	157 MNPSCT	CHECK THE FWD AND AFT TRIM EDGE OF THE PANEL FOR CORRECT STATION USING GAUGES X8526573 (FWD) AND X8526607 (AFT). ON ROHR FIXTURES USE X865653 (FWD) AND X865654 (AFT).			3
169-29	158 MNPSCT	RELEASE CLAMPS. AT THIS POINT PANEL SHOULD BE CORRECTLY POSITIONED WITH LITTLE OR NO DAYLIGHT BETWEEN THE			3

		[illegible]			
[illegible]	[illegible] INSPECT	LIGHTLY SCRIBE THE [illegible] SURFACE OF THE PANEL, TOP AND AFT, WHERE THE PANEL MEETS THE TOP OF THE OLD TRIM DETAILS OF THE FIXTURE. THESE MARKS WILL ALLOW PRECISION CHECKING OF THE LOCATION OF THE PANEL IN THE FIXTURE LATER IN THE BUILDUP PROCESS. ON THE ROHR FIXTURES THE BOTTOM AND TOP TRIM BOARDS MAY BE USED FOR THE SAME PURPOSE			
[illegible]	[illegible] INSPECT	CHECK AND SIGN OFF THE PANEL LOCATION AT THIS POINT			
[illegible]	[illegible] INSPECT	LOAD THE FWD AND AFT FRAMES, DUCT SEGMENTS, LINERS BEGINNING WITH CENTER LINERS AND VANES IN THE FIXTURE. TEMPORARILY ATTACH ALL COMPONENTS. DO NOT FORCE ANY COMPONENTS.			
[illegible]	[illegible] INSPECT	ALIGN THE FWD FRAME ASSEMBLY (P21313) TO THE PANEL USING THE TOP FWD PIN-UP POINT. RELOCATE CLIPS AND TRIM OR REPLACE PINS AS NECESSARY TO ACHIEVE THIS FIT. SET THE FWD FACE OF THE FRAME ON DUCT STATION. USE THE .250 SPACER PROVIDED AT THE PIN-POINT. CHECK ALL OF THE FRAME FACE WITH THE GAUGE TOOL (X9526573) TO INSURE IT IS NOT TWISTED OFF STATION. USE GAUGE TOOL X9665572 FOR ROHR FIXTURES.			
169-29	IT2 MNP3CT	SNUGLY FIT THE DUCT SEGMENTS AND LINERS WORKING FROM FRONT TO REAR USING PLENTY OF TEMPORARY FASTENERS MARK ALL TEMPORARY FASTENER LOCATIONS FOR FUTURE REFERENCE. NOTE. THIS PROCESS WILL DETERMINE THE STATION OF THE INNER PORTION OF THE AFT FRAME ASSEMBLY (P21313) DUE TO THE CONNECTION OF THE DUCT SEGMENTS TO THE FRAME.			3
169-29	IT4 MNP3CT	DUCT SEGMENT FRAMES SHOULD BE BOLTED TO THEIR RESPECTIVE FITTINGS TO CORRECTLY POSITION THE DUCT SEGMENTS AND VANES. DO NOT FORCE OR ATTACH FRAMES WHICH REQUIRE EXCESSIVE FORCE TO ALIGN. USE FINGER PRESSURE ONLY (A MINIMUM OF TWO FRAMES SHOULD BE SECURED PER DUCT SEGMENT, SPACED AT			3

[illegible]	[illegible] MNPSCT	[illegible] FWD AND AFT FRAME ASSEMBLY [illegible] DIRECT [illegible] THE PANEL AS NECESSARY TO ACHIEVE A FREE FIT FOR FRAME [illegible] RELIEVE SLIP AND DRIP OF DEPLANE SKINS AS NECESSARY TO ACHIEVE THIS FIT.			
[illegible]	[illegible] MNPSCT	GAUGE THE STATION OF THE AFT FRAME ASSEMBLY FACE NEAR THE TOP PICK-UP POINT AND ADJUST ALL OF THE AFT ASSEMBLY TO THAT STATION. USE GAUGE X6236OT. (SEE FIGURE [illegible]) FOR TOLERANCE. USE X9665E4 FOR ROHR FIXTURES.			
[illegible]	[illegible] MNPSCT	CHECK AND SLOT OFF THE COWL POSITIONATION AT THIS POINT			
[illegible]	[illegible] MNPSCT	PHASE III. DRILL AND TEMPORARILY FASTEN THE FWD AND AFT FRAME ASSEMBLIES TO THE PANEL APPROXIMATELY EVERY 3".			
[illegible]	[illegible] MNPSCT	DRILL TO TEMPORARILY FASTEN THE OUTER LINERS, LINERS AND INNER SKINS BACK TO THE PANEL APPROXIMATELY EVERY 3". REMOVE COMPONENTS ONLY AS ABSOLUTELY NECESSARY TO ACCOMPLISH THIS STEP. NOTE: USE CHAMFER DRILL BUSHINGS			
169-29	185 MNPSCT	REWORK OR REPLACE ANY BAD, STRUCTURAL PARTS INCLUDING BUT NOT LIMITED TO SKINS, ALL FWD AND AFT FRAME COMPONENTS AND DUCT SEGMENTS. USE ENOUGH FASTENERS TO INSURE THE RIGIDITY OF THE FRAMES. DO NOT ATTEMPT TO REPLACE THESE PARTS OUT OF THE FIXTURE.			A
169-29	186 MNPSCT	PHASE IV. REMOVE COWL FROM FIXTURE. OBSERVE NOTE CONCERNING ROHR TOOLING			B
169-29	187 MNPSCT	REMOVE TEMPORARY FWD TOP FITTING.			B
169-29	188 MNPSCT	REMOVE TEMPORARY FASTENERS AND APPLY FAYING SURFACE SEALER.			B
169-29	191 MNPSCT	PERMANENTLY INSTALL FWD AND AFT FRAMES, UPPER AND LOWER DUCT SEGMENTS AND #2 AND #3 VANES.			B
169-29	[illegible] MNPSCT	PERMANENTLY INSTALL CENTER LINER.			B

[illegible]	[illegible] MNPSCT	[illegible] INSTALL AFT LINER			[illegible]
[illegible]	[illegible] MNPSCT	TEMPORARILY INSTALL FWD LINER. INSTALL FWD LINER.			[illegible]
[illegible]	[illegible] MNPSCT	TEMPORARILY ATTACH SIDE PANEL AND ACCESS DOOR - - DO NOT DRILL - - OR TRIM PANEL OR DOOR AT THIS TIME NOTE BEGIN PHASE 1 OBSERVE NOTE IN PHASE			[illegible]
[illegible]	[illegible] MNPSCT	LOAD COWL IN FIXTURE WITH BEST POSSIBLE FIT ONLY IF NECESSARY THE FIXTURE CONTOUR BOARDS MAY BE PULLED BACK ONE AT A TIME TO PINNED THE COWL. ONLY IF NECESSARY THE AFT BOTTOM PIN MAY BE NEED			[illegible]
[illegible]	[illegible] MNPSCT	POSITION AND REWORK SIDE PANEL AND DOOR TO TOOLING.			[illegible]
[illegible]	[illegible] MNPSCT	CHECK THE CONTOUR OF THE SIDE PANEL.			[illegible]
[illegible]	[illegible] MNPSCT	SET THE CORRECT BUTTLINE OF THE LATCHFACES. [illegible] BE PLACED BETWEEN THE LATCHFACE AND TOOLING FACE OF THE LEFT HAND FIXTURE AND [illegible] SPACERS BETWEEN THE LATCHFACE AND TOOLING FACE OF RIGHT HAND FIXTURES			[illegible]
169-29	201 MNPSCT	FASTEN ALL FRAMES AND "SPACES" BETWEEN THE MAIN COWL AND THE LOWER PANEL BEFORE REMOVING FROM FIXTURE.			B
169-29	202 MNPSCT	POSITION AND TRIM COWL TO DOOR PAYING ATTENTION TO FWD AND AFT STATION TRIM OF THE DOOR AND CORRECT BUTTLINE OF THE DOOR LATCHFACES (SEE OPER 200 ABOVE)			B
169-29	203 MNPSCT	CHECK THE FWD AND AFT TRIM OF SIDE PANEL AND ACCESS DOOR FOR CORRECT STATION. MARK ANY AREA OF EXCESS FWD AND AFT COWL TRIM.			B
169-29	204 MNPSCT	CHECK AND SIGN OFF COWL CONFIGURATION AT THIS POINT.			B
169-29	205 MNPSCT	ARE THREE TOP PINS HAND FREE?			B
169-29	206 MNPSCT	IS COWL IN CONTOUR FWD AND AFT?			B
169-29	207 MNPSCT	ARE FWD AND AFT PANEL TRIMS WITHIN TOLERANCE			B

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] MNPSCT	[illegible] ARE [illegible] OUTLINE.			
[illegible]	[illegible] MNPSCT	[illegible] FWD AND AFT FRAMES ON [illegible] PLANE.			
[illegible]	[illegible] MNPSCT	REMOVE COWL FROM FIXTURE AND PERMANENTLY INSTALL SIDE PANEL AND ACCESS DOOR.			
[illegible]	[illegible] MNPSCT	TRIM COWL FWD AND AFT INCLUDING FAIRING STRIP.			
[illegible]	320 MNPSCT	FINAL CHECK IN FIXTURE (RESKINE ONLY). PHASE VI			
[illegible]	260 MNPSCT	INSTALL [illegible] REPAIR COWLING IN [illegible] MENT FIXTURE AND CHECK FOR PROPER ALIGNMENT FOLLOWING SAME PROCEDURES AS IN OPER #200. NOTE THESE TOLERANCES MAY BE ACHIEVED (-T ONLY) BY MOVING MOVEABLE CONTOUR BOARDS BACK. [illegible] +/- FROM NOMINAL IS ALLOWED TO ACHIEVE THESE TOLERANCES			
[illegible]	230 MNPSCT	ROUTE TO HEAT TREAT. HEAT TREAT MISCELLANEOUS PARTS IAW ATTACHED SUPPLEMENT SHEET. MBE147.			
169-29	270 MNPSCT	ROUTE CRACKED PARTS TO WELDING SHOP WELD IAW ATTACHED SUPPLEMENT SHEET.			
169-29	280 MNPSCT	REPAIR CRACKS IN AFT COWL, SUPPORT VANES AND LOWER ANGLES.			E
169-29	290 MNPSCT	REPAIR CRACKS IN UPPER VANE ANGLES			
169-29	300 MNPSCT	REPAIR SURGE BLEED LOUVER.			
169-29	310 MNPSCT	REPAIR LOWER SURGE BLEED DUCT.			
169-29	320 MNPSCT	INSPECT AND REPAIR OR REPLACE FIRE SEAL.			
169-29	330 MNPSCT	REPAIR OR REPLACE SIDE PANEL.			E
169-29	335 MNPSCT	IF HAT CHANNEL, P/N [illegible]021786-106, IS REPLACED AND HAS TO BE MODIFIED, MODIFY IAW ECO NO 79C0021 AND 1C-141B-3, SEC VIII. IF NOT, N/A.			A

[illegible]	340 MNPSCT	PREPARE [illegible] CHECK [illegible] [illegible] REPLACE [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]			
[illegible]	340 MNPSCT	[illegible] DISPOSITION [illegible] [illegible]			
[illegible]	350 MNPSCT	PREPAINT TREAT TIME _____ DATE _____ NOTE ITEM MUST BE PAINTED WITHIN 48 HOURS TIME _____ DATE _____			
[illegible]	360 MNPSCT	APPLY EXTERIOR AND INTERIOR [illegible] FINISH TIME _____ DATE _____			
[illegible]	370 MNPSCT	A. FORTY-EIGHT HOURS AFTER PAINT PERFORM WET TAPE TEST (N/A IF NOT REQUIRED) B. WET TAPE TEST STARTED TIME _____ DATE _____			
[illegible]	380 MNPSCT	REIN-INSTALL [illegible] TEST DETECTOR SYSTEM IAW T.O. [illegible] AND T.O. [illegible]			
[illegible]	390 MNPSCT	REINSTALL EJECTOR TUBE AND COUPLING [illegible] WITH CLAMPS [illegible] [illegible]			
169-26	390 MNPSCT	INSTALL WARNING DECALS. N40			
169-29	400 MNPSCT	INSTALL WR-ALC DECAL IAW MAGI [illegible]. COMPLETE AFTO FORM 349 UPDATE DATA PLATE.			
169-29	410 MNPSCT	FINAL VISUAL INSPECT. CHECK FOR TOOLS AND FOREIGN OBJECTS.			
169-29	420 MNPSCT	TAG AND TURN-IN.			
		MANE/89062 MANP/89062 MANS/89062 MAQN/89062			

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	CLEAN [illegible] BLASTING. EJECTOR TUBES AND HINGE BRACKETS		
[illegible]	[illegible]	WELD HINGE BRACKETS RETURN TO INSPECT		5
[illegible]	[illegible]	WELD CRACKS AND DRESS WELDS IN COWL PARTS AS REQUIRED.		5
135	[illegible]	WELD EJECTOR TUBES		5
		MANS/88141 MANS/88141 MANP/88141 MAGN/88141		

[illegible]

AFT COWL

14. PART NUMBER	15. STOCK NR	16. FSN	17. SCN
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	ASSIST QUALITY WITH NAVA EVALUATION	
		NANE 7363	
		NANE 7363	
		NANF 7363	
		NANH 7363	

[illegible]

[illegible] AFT [illegible]

[illegible] TECH DATA [illegible]
SUPPLEMENTAL SHEET
[illegible]

[illegible] PART NUMBER	[illegible] STOCK NR	[illegible] ADM [illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] MNFBAC	RECEIVE ACCESS DOOR		
[illegible]	[illegible] MNFBAC	MINOR REPAIR DOOR IAW TECH ORDER [illegible] PETITION [illegible] PART B RETURN TO MNFBOT		[illegible]
[illegible]	[illegible] MNFBAC	TRIM AND REPAIR NEW OUTER [illegible] AS NEEDED IAW [illegible] B-3 SECTION [illegible] N/A IF NECESSARY. RETURN TO MNFBOT.		[illegible]
		MANE/88144 MANB/88144 MANP/88144 MAQN/88144		

[illegible] FORM 959 COMPUTER GENERATED

[illegible]

[illegible] AFT COMP

[illegible] REP NO _____

[illegible] ADDITIONAL
SUPPLEMENTAL SHEET
[illegible]

[illegible] NUMBER	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	HEAT TREAT [illegible] ATTACHED [illegible].		
[illegible]	020 MRPOST	ROUTE TO MRPOST		
		MARE [illegible] MARE [illegible] MARE [illegible] MARE [illegible]		

AFLC FORM 959 COMPUTER GENERATED

[illegible]

[illegible] MODEL [illegible] SERIES [illegible] NOV [illegible] ITEM [illegible]

AFT COWL

[illegible] SIN [illegible] SER NO _____

[illegible] TECH DATA [illegible]
SUPPLEMENT SHEET [illegible]

14. PART NUMBER	15. STOCK NR	16. PER [illegible] SIN
TPE[illegible]-[illegible]	[illegible]0008[illegible]37EJH	51348A 80E[illegible]
[illegible]-E[illegible]-[illegible]	[illegible]60000[illegible]0917[illegible]JH	51340A 80E[illegible]
[illegible]-20	[illegible]5600015R6[illegible]3JH	06691A 80E[illegible]
[illegible]-[illegible]	[illegible]5600115R[illegible]37JH	06692A 80E[illegible]

[illegible] DESCRIPTION

STATION OR AREA	[illegible] TO BE ACCOMPLISHED	[illegible] METHOD [illegible]
[illegible]	REMOVE CORROSION BY BLASTING AND CONVERSION COAT IAW [illegible] - RESKINS ONLY	
[illegible]	ROUTE TO MNPRIT	
	MANE [illegible] MAGN/[illegible] MANP/[illegible] MANB/[illegible]	

AFLC FORM 959 COMPUTER GENERATED

AFLCR 66-11

SHOP FLOW DAY STANDARD
MISTR C/N 0662F REVIEW DATE 23 NOV 87

A((B / C) + D + E) / F)

A = CONVERSION FACTOR, CHANGING WORKDAYS TO CALENDAR DAYS A = 1.46 — A = 1.46

B = ITEM STANDARD HOURS / NUMBER OF WORKERS — B = 162.35
TOTAL FOR ALL SHOPS 324.7 / 2 = B

C = (a) Obtain the RCC yearly indirect time values for duty codes (G037G - EH1 - M1 - MEH)

Duty Code	% Value	Duty Code	% Value
24	0.1	25	0
26	1.7	29	0

1.00 - 0.018 (a) = 0.982

(b) Obtain the RCC efficiency factor from the G037G - FD1 - D2 - MFD (YR 87)

JAN	93.9	MAY	94.9	SEP	95.2
FEB	96.7	JUN	95.9	OCT	95.2
MAR	94.5	JUL	94.7	NOV	91.7
APR	91.9	AUG	84.5	DEC	96.8

TOTAL 1125.9 - 12 = 93.8 (b) = 93.8 C = 92.1 %
Multiply (a) X (b) = C

D = Process Support

	12 Hours
244 Card input/output D033 System	
Transportation time between RCC moves	2.0
Packing	0
Unpacking	6.0
Awaiting Maintenance	52.0
Inspection	0
Other	0

D = 72.0

E = Unique Process Support

Plating Process	1.5	Hrs
Welding Process	.5	
Heat Treat Process	0	
Paint Process	4.9	
Electrical	2.6	
Wet Tape Test	24.0	
Wet Cleaning	10.9	
Other	28.0	

E = 72.4

F = Shift Hours (8) X # of Shifts Working = 2 F = 16.

A(((B / C) + D + E) / F)

Number of Flow Days 29

08691A AFT COWL ENGINE L/H RCC MNPSC Y 158001152838BJH 83285

OPER SUB STEP	TECH D	S T L	S K	W/R K	P A C	PP FA DC	A/R REV SUPPORT ELEMENT	OCC FACT	STORED		DESCRIPTION SUPPLEMENTAL	BASE HOURS	PFD TIME	STD HOURS	DLY PCT	A C
00100	W	E	SA	EA	T		K 84303	1.00	PERCENT ENGR 99.9			108.79		108.79	68	
0010			SA	1		12		1.00			REPAIR COWL DOOR	111.878	13.425	125.304	67	
0010	E							.80	3512	.09	TEARDOWN	15.32600		13.732		A
0020	E							.80	3512	.43	BUILDUP	52.87400		47.375		A
0030	E							.80	3512	.31	REPAIR	71.64800		64.196		A
0020			SA	02		12		1.00			REPAIR AFT COWL DOOR	53.954	8.475	80.429	32	
0010	E							.20	8545	.09	TEARDOWN	29.37000		6.578		A
0020	E							.20	8545	.04	REPAIR	13.12300		2.939		A
0030	E							.20	8545	.28	START BUILDUP	89.04800		19.946		A
0040	E							.20	8545	.29	CONTINUE BUILDUP	89.04800		19.946		A
0050	E							.20	8545	.18	INSTALL NEW SKIN	49.18300		11.018		A
0040			SA	02		12		1.00			PREPARE FOR AND TURN IN	.840	.113	1.053	1	
0010	E							1.00	6	.09	GET TOOLS	.02110		.033		
0012	E							1.00	6	.74	GET HARDWARE	.10900		.122		
0014	E							1.00	6	.00	TAPE TUBE PREPARE TO INSTALL	.09880		.108		
0016	E							1.00	6	.91	INSTALL TUBES	.40260		.450		
0018	E							1.00	6	.60	REMOVE FOREIGN OBJECTS	.15710		.175		
0020	E							1.00	6	.95	INSTALL DECALS	.11460		.128		
0022	E							1.00	6	.75	PUT AWAY TOOLS	.03900		.043		
0700			SA	02		00		1.00			LABOR STANDARD HISTORY	.000	.000	.000	0	

0001 20 SEPT 83 STANDARD REFERENCED TO C-N 91342A
0002 OPERATIONS 00100--00101 COMBINED-.J.JACKSON
0004 SUB OPER 0030-OPER 00100 CHANGED TO OPER
0005 00101--SUB OPER 0010--NON ENGINEERED-J.JACK
0006 21 FEB 85 LABOR STD INCREASED 40 M/HRS DUE TO PROB-
0007 LEM.WITH OUTER SKIN -OPER 00102 ADDED. J.JACKSON

PART OPERATION SUMMARY

ALC: WARNER ROBBINS RCC: MANPDB

PN: 8325548- NSN: 30 PCN: 06692A WCD: MBA14Y WCD DATE: 88141

OPERATION: ZPRT BACKSHOP OPERATION TYPE: MATERIAL TYPE:
SAMPLE SIZE: 2 MISSING FLOWTIMES: 0 END ITEMS: . OUTLIERS DELETED: 0

-------- MANPOWER REQUIRED --------				---------- EQUIPMENT REQUIRED ----------					
		--- TIME ---					--- TIME ---		BATCH
SKILL	QTY	FRACTION	HOURS	CODE	CATEGORY	QTY	FRACTION	HOURS	MIN MAX

HISTORICAL DATA

ACTUAL FREQ		RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100
0	50	**********
1	50	**********
2	0	
3	0	
4	0	
5	0	
6	0	
7	0	
8	0	
9	0	
>=10	0	

DISTRIBUTION	PARAMETERS		D VALUE	D ALPHA
UNIFORM	0.0	1.0	0.000	.
TRIANGULAR	.	.	.	.
NORMAL	0.5	0.7	.	.
LOGNORMAL	.	.	.	.
EXPONENTIAL	3.0		0.514	.

OCCURRANCE FACTOR: . OCCURRANCES: 2

DISTRIBUTION OF CHOICE: HISTORICAL DISCRETE

PART OPERATION SUMMARY

ALC: WARNER ROBBINS RCC: MANPDA

PN: 8325548- NSN: 30 PCN: 06692A WCD: MBD14Y WCD DATE: 87363

OPERATION: ZPRT BACKSHOP OPERATION TYPE: MATERIAL TYPE:
SAMPLE SIZE: . MISSING FLOWTIMES: . END ITEMS: . OUTLIERS DELETED: .

-------- MANPOWER REQUIRED --------				---------- EQUIPMENT REQUIRED ----------					
		--- TIME ---					--- TIME ---		BATCH
SKILL	QTY	FRACTION	HOURS	CODE	CATEGORY	QTY	FRACTION	HOURS	MIN MAX

HISTORICAL DATA

ACTUAL FREQ	RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100	DISTRIBUTION	PARAMETERS	D VALUE	D ALPHA
0	.	UNIFORM	.	.	.
0	.	TRIANGULAR	.	.	.
0	.	NORMAL	.	.	.
0	.	LOGNORMAL	.	.	.
0	.	EXPONENTIAL	.	.	.
0	.				
0	.				
0	.				
0	.				
0	.				
>= 0	.				

OCCURRANCE FACTOR: . OCCURRANCES: .

DISTRIBUTION OF CHOICE:

PART OPERATION SUMMARY

ALC: WARNER ROBBINS RCC: MANPSC SHEETMETAL, SHEETMETAL REPAIR

PN: 8325548-40 NSN: PCN: 06692A WCD: MB014Y WCD DATE: 87363

OPERATION: ZPRT PRIMARY OPERATION TYPE: INS MATERIAL TYPE: AL

SAMPLE SIZE: 107 MISSING FLOWTIMES: 0 END ITEMS: . OUTLIERS DELETED: 0

-------- MANPOWER REQUIRED -------- ---------- EQUIPMENT REQUIRED ----------

SKILL	QTY	--- TIME --- FRACTION	HOURS	CODE	CATEGORY	QTY	--- TIME --- FRACTION	HOURS	BATCH MIN	BATCH MAX

HISTORICAL DATA

ACTUAL FREQ		RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100
0	2	*
20	44	**********
40	30	**********
60	9	****
80	9	****
100	2	*
120	0	
140	1	
160	0	
180	0	
>=00	3	*

DISTRIBUTION	PARAMETERS		D VALUE	D ALPHA
UNIFORM	14.0	464.0	0.758	
TRIANGULAR	14.0 36.0	464.0	0.634	
NORMAL	58.6 70.9		0.267	
LOGNORMAL			1.000	
EXPONENTIAL	59.1		0.264	

OCCURRANCE FACTOR: . OCCURRANCES: 107

DISTRIBUTION OF CHOICE: HISTORICAL DISCRETE

WORK CONTROL DOCUMENT MB024D | DATE [illegible] | PAGE [illegible] OF [illegible]

2. PSSD/RCC	3. MATERIAL	4. MIC	5. ERRC	6. QTY	7. SCHED DT	8. COMP
MNPSCT						

9. MODEL/DESIGN/SERIES	10. NOUN	11. ITEM SERIAL
C-130 B, E, & H	SCOOP, ENGINE AIR INLET	

12. BCN 12A. SER NO. _____

13. TECH DATA/OPTIONAL
1-1-4, 1-1-8, 1C-130A-23,
1C-130B-10, 1C-130A-3,

14. PART NUMBER	15. STOCK NR.	16. PDN	17. BCN
352863-501	1560006529677LG	50547A	806564
352863-9	1560000835312LG	50164A	806565
352863-9	1560000835312LG	10751A	815328

18. DISP-19 PDN/ STATION	OP NO.	20. WORK TO BE ACCOMPLISHED	21. MECH	22'P'	23
		SUPPLEMENTAL WCD'S: MBA24D: DEGREASE, HEAT TREAT AND CADIUM PLATE MISC PARTS. MBB24D: BEAD BLAST AND WELD MISC PARTS. MBG24G: QUALITY ASSIST.			
180	010 MNPDD7	CLEAN IAW T.O. 1-1-2, SECTION VI.			B
180	020 MNPDD7	DEPAINT IAW T.O 1-1-2, SECTION VI.			B
180	030 MNPDD7	REMOVE CORROSION IAW T.O. 1-1-2, SECTION VI.			B
169	040 MNPSCT	DISASSEMBE SCOOP ASSY AS REQUIRED. N/A OPERATIONS 070 AND 090 IF WELDING IS NOT REQUIRED.			
180	050 MNPDD7	CLEAN INTERIOR OF SCOOP AND/OR MISCELLANEOUS PARTS IAW T.O. 1-1-2, AS REQUIRED.			B
169	060 MNPSCT	REPAIR IAW T.O. 1C-130A-3, SECTION VI. NOTE: N/A NEXT TWO (2) OPERATIONS IF WELDING IS NOT REQUIRED.			B
142	070 MNPDAJ	IF REQUIRED, BEAD BLAST AREAS TO BE WELDED, IAW MIL-STD-1504.			B
169	090 MNPSCT	WELD REPAIR AS REQUIRED IAW T.O. 1-1A-9.			B
169	100 MNPSCT	COMPLETE REPAIRS TO SCOOP IAW T.O. 1C-130A-3.			B
169	110 MNPSCT	INSPECT FOR TOOLS AND FOREIGN OBJECTS.			B

AFLC FORM 959 (COMPUTER GENERATED)

18.DISP-19.PSN STATION	OP NO.	20.WORK TO BE ACCOMPLISHED	21 MECH	22'P'	23
180	120 MNPDD7	PREPAINT TREAT IAW T.O. 1-1-2 AND 1-1-8. RECORD TIME: _____ DATE: _____ NOTE: ITEM MUST BE PAINTED WITHIN 48 HOURS.			B
180	130 MNPDCF	FINISH IAW T.O. 1-1-4 AND 1-1-8. TIME: _____ DATE _____			B
180	140 MNPDCF	A. FORTY-EIGHT HOURS AFTER PAINT, PERFORM WET TAPE TEST IAW T.O. 1-1-8 B. WET TAPE TEST STARTED: DATE: _____ TIME: _____			B
169	150 MNPSCT	COMPLETE AFTO FORM 349. WORK UNIT 22BAR. INSTALL WR/ALC DECAL.			
169	160 MNPSCT	FINAL VISUAL INSPECT. INSPECT FOR TOOLS AND FOREIGN OBJECTS. TAG AND TURN IN.			B
		MANE/89005 MANP/89005 MANS/89005 MAQN/89005			

*--AFLC FORM 959----------(COMPUTER GENERATED)----

SHOP FLOW DAY STANDARD

Reference AFLCR 66-11

CONTROL NO. 501644 DATE 28 Dec 88

Shop Flow Days (standard calendar days) $= \frac{A((B / C) + D + E)}{F}$

Where :

A = **CONVERSION FACTORS**, Changing workdays to calendar days.
5 day week = 1.46
6 day week = 1.21
7 day week = 1.03

A = 1.46

B = **END ITEM STANDARD HOURS**, expressed in hours, to two decimal places.
Note 1. When an operation with a labor standard takes place concurrent to a process support or unique process support operation (factors D or E below), use only the longer time.

Note 2. If the same operation is performed on the same part at the same time by multiple workers, divide the total standard time by the number of workers.

B = 73.74

C = **RCC CONSTANT**, direct labor hours, expressed as a percentage of total hours available. Subtract indirect labor factors for duty codes .24, .25, .26, and .29 for 1.00. Reference G037G-EHI-MI-MEH. Round off answer to four decimal places.

C = .9850

D = **PROCESS SUPPORT**, expressed in hours, to two decimal places. An average time value for each end item, for transportation time between RCCs, packing, unpacking, and awaiting Maintenance time.

D = 4.94

E = **UNIQUE PROCESS SUPPORT**, expressed in hours, to two decimal places. An average time value for each end item, for processes, such as plating, heat treating, welding, painting, etc.

E = 12.74

F = **SHIFT HOURS**, expressed in whole hours. Normally 8 hours in peacetime. Peacetime process or test times that exceed 8 hours are an exception (e.g. plating, heat treating, etc.). If the number of shifts are temporarily changed (3 months or less), the number of flow days should not be modified.

F = 8

Flow Days $= \frac{A((B / C) + D + E)}{F}$

FD = 12

FLOW PROCESS CHART

1. NUMBER | 2. PAGE NO | 3. NO OF PGS

4. PROCESS: Repair of C-130 Engine Inlet Scoop

6. ☐ MAN OR ☒ MATERIAL

7. CHART BEGINS: Bldg 180

8. CHART ENDS: Bldg 169

9. CHARTED BY: Karen G. Morgan

10. DATE: 29 Dec 88

11. ORGANIZATION: MANERS

5. SUMMARY

a. ACTIONS	b. PRESENT NO.	b. PRESENT TIME	c. PROPOSED NO.	c. PROPOSED TIME	d. DIFFERENCE NO.	d. DIFFERENCE TIME
○ OPERATIONS	10					
⇨ TRANSPORTATIONS	9					
☐ INSPECTIONS	1					
D DELAYS						
▽ STORAGES						
DISTANCE TRAVELLED (Feet)						

12a. DETAILS OF ☐ PRESENT ☐ PROPOSED METHOD	b. OPERATION	TRANSPORTATION	INSPECTION	DELAY	STORAGE	c. DISTANCE IN FEET	d. QUANTITY	e. TIME	f. ANALYSIS WHY? WHAT?	WHERE?	WHEN?	WHO?	HOW?	g. NOTES	h. ANALYSIS ELIMINATE	COMBINE	CH SEQUENCE	PLACE	PERSON	IMPROVE
1. Clean, depaint and remove corrosion	●	⇨	☐	D	▽															
2. Move to Bldg 169	○	➡	☐	D	▽															
3. Disassemble scoop as required	●	⇨	☐	D	▽															
4. Move to Bldg 180	○	➡	☐	D	▽															
5. Clean interior of scoop and/or Misc Parts	●	⇨	☐	D	▽															
6. Move to Bldg 169.	○	➡	☐	D	▽															
7. Repair scoop as needed	●	⇨	☐	D	▽									Item is moved if welding is needed						
8. Move to Bldg 142	○	➡	☐	D	▽															
9. Bead Blast areas to be welded.	●	⇨	☐	D	▽															
10. Move to Bldg 125	○	➡	☐	D	▽															
11. Weld as required	●	⇨	☐	D	▽															
12. Move to Bldg 169	○	➡	☐	D	▽															
13. Complete repairs	●	⇨	☐	D	▽															
14. Move to Bldg 180	○	➡	☐	D	▽															
15. Prepaint treat	●	⇨	☐	D	▽															
16. Move to Paint shop in B180	○	➡	☐	D	▽															
17. Paint scoop	●	⇨	☐	D	▽															
18. Move to Bldg 169	○	➡	☐	D	▽															
19. Final Visual Inspection	○	⇨	■	D	▽															
20. Tag and Turn IN	●	⇨	☐	D	▽															
21.	○	⇨	☐	D	▽															

DD FORM 1 SEP 76 1723

50164A SCOOP ENGINE AIR RCC MNPSC X 156000083812LG

OPER SUB	TECH STEP	S T D	S K L	W R K	F A C	PF FA DC	A/R SUPPORT ELEMENT	OCC FACT	STORED	DESCRIPTION SUPPLEMENTAL	BASE HOURS	PFD TIME	STD HOURS	DLY PCT	A C
00100	E	N	SA	EA	T		K 88337	1.00	PERCENT ENGR .0	REPAIR SCOOP	61.00		61.00	100	
0010			SA	1		00		1.00		S&M REP ENG AIR SCOOP	61.000	.000	61.000	101	
	0010	N						1.00	1	RECEIVE---IDENTIFY---HANDLE	.46500		.465		
	0011	N						1.00		SHAKEDOWN FOR REPAIR	.68200		.682		
	0012	N						1.00		REMOVE NOSE RING	1.54500		1.545		
	0014	N						1.00		REMOVE DUCT	1.61800		1.618		
	0016	N						1.00		REMOVE FAULTY HARDWARE	1.01300		1.013		
	0018	N						1.00		REMOVE DAMAGED DOORS	2.44800		2.448		
	0020	N						1.00		REMOVE - REPAIR FAIRING	2.26600		2.266		
	0022	N						1.00		REMOVE DAMAGED RIBS	.63300		.633		
	0024	N						1.00		REPAIR REPLACE DUCTS	1.22400		1.224		
	0026	N						1.00		REPLACE BRACKETS	1.52700		1.527		
	0028	N						1.00		REPAIR NOSE RING	4.68200		4.682		
	0030	N						1.00		REPAIR DUCT	2.10300		2.103		
	0032	N						1.00		FABRICATE & INSTALL DOORS	2.72600		2.726		
	0034	N						1.00		INSTALL FAIRING	1.63000		1.630		
	0036	N						1.00		INSTALL RIBS	1.03600		1.036		
	0038	N						1.00		INSTALL DUCTS	1.84700		1.847		
	0040	N						1.00		INSTALL NOSE RING	5.11500		5.115		
	0042	N						1.00		INSTALL HARDWARE	2.13600		2.136		
	0044	N						1.00		REMOVE DENTS & SCRATCHES	1.04000		1.040		
	0046	N						1.00		CHECK-P-STAMP-TURN-IN	.09700		.097		
	0048	N						1.00		FINAL VISUAL INSPECT & TAG	.18300		.183		
	0049	N						1.00		INCREASE REPAIR	24.98400		24.984		
0700			SA	01		00		1.00		LABOR STANDARD CHANGES	.000	.000	.000	101	

0001 17 NOV 82 J D FRENZ
0002 STANDARD REVIEWED NO CHANGES
0003 STANDARD INCREASED DUE TO DETERIORATED CONDITION
0004 STANDARD INCREASED 12 HRS/22 AUG 86/M. WINDHAM
0005 02 DEC 88 --------- KAREN G. MORGAN
0006 OLD STANDARD 48.01 M/HRS - NEW STANDARD 61.0 M/HRS
0007 STANDARD INCREASED 12.98 M/HRS DUE TO DETERIORATED
0008 CONDITION OF END ITEM RECEIVED IN SHOP.

TOTAL RESOURCE CENTER END ITEM STANDARD AS OF 12/05/88 61.00

PART OPERATION SUMMARY 7:25 FRIDAY, FEBRUARY 24, 1989 4

ALC: WARNER ROBBINS RCC: MANPSC SHEETMETAL, SHEETMETAL REPAIR

PN: 352863-9 NSN: PCN: 50164A WCD: MB024D WCD DATE: 88147

OPERATION: ZPRT PRIMARY OPERATION TYPE: INS MATERIAL TYPE: AL

SAMPLE SIZE: 45 MISSING FLOWTIMES: 0 END ITEMS: . OUTLIERS DELETED: 2

-------- MANPOWER REQUIRED --------

SKILL	QTY	--- TIME --- FRACTION	HOURS

---------- EQUIPMENT REQUIRED ----------

CODE	CATEGORY	QTY	--- TIME --- FRACTION	HOURS	BATCH MIN	BATCH MAX

HISTORICAL DATA

ACTUAL FREQ		RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100
0	7	***
20	18	*******
40	47	**********
60	11	****
80	4	**
100	0	
120	0	
140	0	
160	0	
180	0	
>=00	13	*****

DISTRIBUTION	PARAMETERS			D VALUE	D ALPHA
UNIFORM	9.0		327.0	0.625	.
TRIANGULAR	9.0	43.0	327.0	0.543	.
NORMAL	76.0	84.7		0.343	.
LOGNORMAL	.			1.000	.
EXPONENTIAL	76.5			0.212	0.04

OCCURRANCE FACTOR: . OCCURRANCES: 47

DISTRIBUTION OF CHOICE: HISTORICAL DISCRETE

2. FSSD/RCC	3. MATERIAL	4. MIC	5. ERPC	6. QTY	7. SCHED DT	8. COMP
MNPSCT						

9. MODEL/DESIGN/SERIES	10. NOUN	11. ITEM SERIAL
	DOOR, THRUST REVERSER	

12. BCN 12A. SER NO._____

13. TECH DATA/OPTIONAL
1-1-1
1-1-2, 1-1-4, 1-1-8,
1-1A-9, 1C-141B-10
1C-141B-3, 1C-141B-36,

14. PART NUMBER	15. STOCK NR.	16. PDN	17. BCN
3P22002-362	1560009411377JH	51402A	806515
3P22002-361	1560009411378JH	51404A	806516
3P22002-359	1560009073121JH	05309A	806517
3P22002-360	1560012304280JH	09276A	806518

18. DISP-STATION	19. PDN/OP NO.	20. WORK TO BE ACCOMPLISHED	21. MECH	22. 'P'	23
180-27	010 MNPDD7	CLEAN.			
169-29	020 MNPDD7	INSPECT FOR AND REMOVE CORROSION.			
169-29	030 MNPSCT	INSPECT AND DISASSEMBLE AS NECESSARY FOR REPAIRS.			
169-29	075 MNPSCT	REPAIR SHEET METAL STRUCTURAL DAMAGE IAW T.O. 1C-141B-3.			B
169-29	080 MNPSCT	INSPECT FITTING FOR ELONGATED HOLES; LOOSE RIVETS AND FASTENERS IAW T.O.. 1C-141B-3.			
169-29	090 MNPSCT	VISUALLY CHECK CONTOUR AND ALIGNMENT IAW T.O. 1C-141B-3.			
169-29	100 MNPSCT	REPLACE RIVETS AND FASTENERS IAW T.O. 1C-141B-3.			B
180-27	105 MNPDD7	PREPAINT TREAT. NOTE: ITEM MUST BE PAINTED WITHIN 48 HOURS. RECORD TIME:_____DATE:_____			
180-27	110 MNPDCF	FINISH AS PER PRINT 3P00006. TIME:_____DATE:_____			B
180-27	115 MNPDCF	A. FORTY-EIGHT HOURS AFTER PAINT. PERFORM WET TAPE TEST. B. WET TAPE TEST STARTED: DATE:_____TIME:_____			B
169-29	120 MNPSCT	COMPLETE AFTO FORM 349. INSTALL WR-ALC DECAL IAW MAOI 66-40. WORK UNIT CODE 23TQA.			

AFLC FORM 959 (COMPUTER GENERATED)

18.DISP-STATION	19.PDN OP NO	20.WORK TO BE ACCOMPLISHED	21 MECH	22'P'	23
169-29	130 MNPSCT	FINAL VISUAL INSPECT. 1. CHECK FOR TOOLS AND FOREIGN OBJECTS.			E
169-29	140 MNPSCT	TAG AND TURN IN.			
		MANE/88154 MANS/88154 MANP/88154 MAQN/88154			

*--AFLC FORM 959----------(COMPUTER GENERATED)---

AFLCR 66-11

SHOP FLOW DAY STANDARD
MISTR C/N 5140.2A REVIEW DATE 8 DEC. '87

A((B / C) + D + E) / F)

A = CONVERSION FACTOR, CHANGING WORKDAYS TO CALENDAR DAYS A = 1.46 — A = 1.46

B = ITEM STANDARD HOURS / NUMBER OF WORKERS TOTAL FOR ALL SHOPS 76.1 / 1 = B — B = 76.1

C = (a) Obtain the RCC yearly indirect time values for duty codes (G037G - EH1 - M1 - MEH)

Duty Code	% Value	Duty Code	% Value
24	.1	25	.0
26	1.7	29	.0

1.00 - .018 (a) = .982

(b) Obtain the RCC efficiency factor from the G037G - FD1 - D2 - MFD (YR 87)

JAN	93.9	MAY	94.9	SEP	95.2
FEB	96.7	JUN	95.9	OCT	95.2
MAR	94.5	JUL	94.7	NOV	91.7
APR	91.9	AUG	84.5	DEC	96.8

TOTAL 1125.9 - 12 = 93.8 (b) = 93.8 C = 92.1%

Multiply (a) X (b) = C

D = Process Support

244 Card input/output D033 System	12 Hours
Transportation time between RCC moves	3.5
Packing	2.0
Unpacking	.0
Awaiting Maintenance	52.0
Inspection	.0
Other	.0

D = 69.5

E = Unique Process Support

Plating Process	1.0	Hrs
Welding Process	.5	
Heat Treat Process	.0	
Paint Process	1.5	
Electrical	.0	
Wet Tape Test	24.0	
Wet Cleaning	3.5	
Other	.5	

E = 31.0

F = Shift Hours (8) X # of Shifts Working = 1 — F = 8

A(((B / C) + D + E) / F)

Number of Flow Days 33

LABOR STANDARD OPERATION RESOURCE STANDARD AND METHOD ANALYSIS 03/12/87 A-E046B-MM1-DY-M45 PAGE 0001

B1402A DOOR, THRUST REVERSER RCC MNPSC Y 1560009411377JH

OPER SUB	STEP	TECH D	S T L	S K	W R K	F A C	PF FA DC	A/R SUPPORT ELEMENT	OCC FACT	STORED	DESCRIPTION SUPPLEMENTAL	BASE HOURS	PFD TIME	STD HOURS	DLY	PCT	A C
00100		E	N	SA	EA	T		A 85298	1.00	PERCENT ENGR .0	REPAIR THRUST REVERSER DOOR	69.12		/69.12		100	
0010				SA	01		00		1.00		REP.TH.REV.DR--3P22002-359	69.117	.000	69.117		101	
	0010	N							1.00		GET DOOR FROM STORAGE	.75000		.750			
	0012	N							1.00		GET OUT & SET UP TOOLS	.66300		.663			
	0014	N							1.00		SHAKEDOWN	.57500		.575			
	0016	N							1.00		DRILL OUT RIVETS	1.75000		1.750			
	0018	N							3.00		REPAIR INNER RIB	.67500		2.025			
	0020	N							1.00		REPAIR END RIB	.87500		.875			
	0022	N							1.00		REMOVE BLIND RIVETS	2.18300		2.183			
	0024	N							2.00		MFG DOUBLERS	1.45200		2.904			
	0026	N							1.00		DRILL--REAM--CSK HOLES	2.58300		2.583			
	0028	N							2.00		CLECO DOUBLER IN PLACE--FIT	.28600		.572			
	0030	N							2.00		REMOVE PARTS TO CLEAN UNDER	.16700		.334			
	0032	N							2.00		CLECO DBLR IN PLACE TO RIVET	.32500		.650			
	0034	N							1.00		DRIVE RIVETS	3.18300		3.183			
	0036	N							2.00		STRAIGHTEN RIBS/EDGES	.46500		.930			
	0038	N							1.00		REMOVE DENTS	1.65000		1.650			
	0040	N							1.00		INSTALL BLIND RIVETS	2.41700		2.417			
	0042	N							1.00		REMOVE AND INSTALL JO BOLTS	2.87500		2.875			
	0044	N							1.00		REPAIR TOP WEB	.75000		.750			
	0046	N							1.00		REPAIR TOP ANGLE	.87500		.875			
	0048	N							1.00		REPAIR TOP LONGERN	.75000		.750			
	0050	N							1.00		STRAIGHTEN STIFFENER	.56600		.566			
	0052	N							1.00		STRAIGHTEN FWD STRAP	.93600		.936			
	0054	N							1.00		STRAIGHTEN AFT STRAP	.87500		.875			
	0056	N							2.00		REMOVE SIDE FAIRINGS	2.00000		4.000			
	0058	N							2.00		REPAIR/INSTALL SIDE FAIRINGS	8.18300		16.366			
	0059	N							2.00		INSTALL SIDE FAIRING	3.00000		6.000			
	0060	N							1.00		REPAIR LOWER LONGERON	1.18300		1.183			
	0062	N							1.00		REPAIR/REPL REFLECTOR STA201	2.14400		2.144			
	0063	N							1.00		MFG/INSTALL DOUB IAW T.O.	5.25000		5.250			
	0064	N							1.00		REPAIR/REPL DOUBLERS STA 199	2.00300		2.003			
	0066	N							1.00		PRODUCT INSPECT TAG/TURN IN	.50000		.500			
0700				SA	01		00		1.00		LABOR STANDARD CHANGES	.000	.000	.000		101	

0001 19 JAN 81 STD. REVIEWED. NO CHANGE.
0002 REMOVED OVERAGE HISTORY. W.ROTH
0003 25 OCT 85 INCREASED DUE TO DETERIORATED
0004 CONDITION OF ITEMS RECIEVED. TIME STUDY WILL BE
0005 PERFORMED ---J. JACKSON
0006 12 MAR 87 ---- STANDARD INCREASED 19.75 HRS
0007 DUE TO ADDITIONAL REQUIREMENTS OUTLINED IN T.O.
0008 ITEM ON AGENDA TO BE TIME STUDIED. J. JACKSON

TOTAL RESOURCE CENTER END ITEM STANDARD AS OF 03/12/87 69.11

PART OPERATION SUMMARY

ALC: WARNER ROBBINS RCC: MANPSC SHEETMETAL, SHEETMETAL REPAIR

PN: 3P22002-362 NSN: PCN: 51402A WCD: MB019Y WCD DATE: 88154

OPERATION: ZPRT PRIMARY OPERATION TYPE: ASSY MATERIAL TYPE: SYN
SAMPLE SIZE: 9 MISSING FLOWTIMES: 0 END ITEMS: . OUTLIERS DELETED: 0

-------- MANPOWER REQUIRED -------- ---------- EQUIPMENT REQUIRED ----------

SKILL	QTY	--- TIME --- FRACTION	HOURS	CODE	CATEGORY	QTY	--- TIME --- FRACTION	HOURS	BATCH MIN	BATCH MAX

HISTORICAL DATA

ACTUAL FREQ		RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100
0	0	
5	0	
10	11	****
15	0	
20	11	****
25	44	**********
30	0	
35	22	*********
40	11	****
45	0	
>=50	0	

DISTRIBUTION	PARAMETERS			D VALUE	D ALPHA
UNIFORM	14.0		41.0	0.171	1.00
TRIANGULAR	14.0	28.0	41.0	0.109	1.00
NORMAL	29.7	8.7		0.220	1.00
LOGNORMAL	.	.		1.000	.
EXPONENTIAL	31.3			0.328	1.00

OCCURRANCE FACTOR: . OCCURRANCES: 9

DISTRIBUTION OF CHOICE: TRIANGULAR

WORK CONTROL DOCUMENT MB053D | DATE 88147 | PAGE 1 OF 2 P

2 PSSD/PCC	3. MATERIAL	4. MIC	5. ERRC	6. QTY	7. SCHED DT	8. COMP
MNPSCT						

9. MODEL/DESIGN/SERIES	10. NOUN	11. ITEM SERIAL
C-130	FLAP, CENTER WING	

12. BCN 12A. SER NO._____

13. TECH DATA/OPTIONAL
1C-130A-3, 1-1-2
1C-130A,B,E,H(H)2-2
1C-130B/H

14. PART NUMBER	15. STOCK NR.	16. PDN	17. BCN
375456-3	1560006031491LG	50454A	806668
375456-4	1560007323228LG	50455A	806669
375456-6	1560008182072LG	50195A	806670
375456-5	1560008182083LG	50143A	806671
375456-7	1560009121806LG	50242A	806672
375456-8	1560009121812LG	50244A	806673
342328-600R	1560005455166LG	01651A	806674

18. DISP-STATION	19. PDN/OP NO.	20. WORK TO BE ACCOMPLISHED	21. MECH	22'P'	23
		SUPPLEMENTAL WCD'S MBA53D: FLAP CARRIAGES MBB53D: PREPAINT TREAT/PRIME L.E.AND FLAP SKINS, CLEAN AND PLATE MISC MBG53D: ASSIST QUALITY			
180-27	010 MNPDD7	CLEAN AND DEPAINT IAW T.O. 1-1-2.			B
180-27	020 MNPDD7	REMOVE CORROSION IAW T.O. 1-1-2.			B
169-29	025 MNPSCT	SHAKE DOWN FOR FOD PRIOR TO REWORK, DISASSEMBLE AS REQUIRED.			
180-27	028 MNPDD7	CLEAN INTERIOR OF FLAP IAW T.O. 1-1-2 AS REQUIRED.			B
169	030 MNPSCT	INSTALL IN FIXTURE AND CHECK FLAP ALIGNMENT, WEAR TOLERANCES AND CONDITION OF ACTUATOR PLATES. (REPLACE PLATES AS NECESSARY)			
169	040 MNPSCT	REPAIR STRUCTURE IAW T.O. 1C-130A-3.			B
169	060 MNPSCT	REPAIR/REPLACE LEADING EDGE SKINS.			B
169	070 MNPSCT	REPAIR/REPLACE BOTTOM SKINS IAW T.O. 1C-130A-3.			B
169	080 MNPSCT	RECHECK ALIGNMENT PRIOR TO REMOVING FROM FIXTURE.			B

(COMPUTER GENERATED)

18.DISP-19.PDN/ STATION	OP NO.	20 WORK TO BE ACCOMPLISHED	21 MECH	22'P'
169	090 MNPSCT	REPAIR OR REPLACE TOP SKINS IAW T.O. 1C-130A-3.		
169	095 MNPSCT	REPAIR TRAILING EDGE IAW T.O. 1C-130A-3.		
169	100 MNPSCT	REPAIR/SERVICE/REPLACE CARRIAGES AS REQUIRED IAW T.O. 1C-130A-3, 1C-130A,B,E,H(H)2-2.		
180-27	105 MNPDD7	PREPAINT TREAT IAW T.O. 1-1-2 AND 1-1-8. RECORD TIME: _____ DATE: _____ NOTE: ITEM MUST BE PAINTED WITHIN 48 HOURS.		
180-27	110 MNPDCF	FINISH IAW TO 1-1-4 AND 1-1-8. TIME:_____DATE:_____		
180-27	115 MNPDCF	A. FORTY-EIGHT HOURS AFTER PAINT, PERFORM WET TAPE TEST IAW T.O. 1-1-8 B. WET TAPE TEST STARTED: DATE:_____TIME:_____		
169-29	116 MNPSCT	COMPLETE AFTO FORM 349 AND INSTALL WR-ALC DECAL IAW MAOI 66-22.		
169-29	120 MNPSCT	INSPECT FOR TOOLS AND FOREIGN OBJECTS.		
169	130 MNPSCT	FINAL VISUAL INSPECT. TAG AND TURN IN.		
		MANE/8147 MANP/8147 MANS/8147 MAQN/8147		

WORK CONTROL DOCUMENT MBA53D 1.DATE 88147 PAGE 1 OF 1

2 PSSD/RCC	3.MATERIAL	4.MIC	5.ERRC	6.QTY	7.SCHED DT	8.COMP
MNPSCT						

9.MODEL/DESIGN/SERIES	10.NOUN	11.ITEM SERIAL
C-130	FLAP, CARRIAGE CENTER WING	

12.BCN 12A. SER NO._____

13.TECH DATA/OPTIONAL
MIL-STD-1504, 44B-1-102
1-1-2, 1-1-8, 1-1-4,
1C-130A-3, 1C-130A-36

14.PART NUMBER	15.STOCK NR.	16.PDN	17.BCN
342781-501	1560006316402LG		805547

18.DISP-STATION	19.PDN/OP NO.	20.WORK TO BE ACCOMPLISHED	21.MECH	22'P'	23
169	010 MNPSCT	REMOVE CARRIAGES FROM FLAP.			
169	020 MNPSCT	TEAR DOWN CARRIAGES.			
142	030 MNPDAJ	HULL BLAST TO REMOVE PAINT AND CORROSION IAW MIL-STD-1504.			
142	040 MNPDAJ	NDI INSPECT CARRIAGE FRAMES IAW 1C-130A-36.	K		
180-27	050 MNPDD7	PREPAINT & TREAT IAW T.O. 1-1-2 & 1-1-8.			B
180-27	060 MNPDCF	FINISH IAW T.O. 1-1-4 & 1-1-8. TIME_____DATE_____			B
169	070 MNPSCT	ASSEMBLE CARRIAGES. INSTALL NEW BEARINGS 100%.			B
		MANE/8147 MANP/8147 MANS/8147 MAQN/8147			

(COMPUTER GENERATED)

WORK CONTROL DOCUMENT MBB53D 1.DATE 92234 PAGE 1 OF 1 PA

2.PSSD/RCC	3.MATERIAL	4.MIC	5.ERRC	6.QTY	7.SCHED DT	8.COMP

9.MODEL/DESIGN/SERIES	10.NOUN	11.ITEM SERIAL
	CENTER WING FLAP	

12.BCN 12A. SER NO._____

13.TECH DATA/OPTIONAL
1-1-4, 1-1-2, 1-1-8

14.PART NUMBER	15.STOCK NR.	16.PDN	17.BCN
375456-3	1560006031491LG	50454A	805597
375456-4	1560007323228LG	50455A	805598
375456-6	1560008182072LG	50195A	805599
375456-5	1560008182083LG	50143A	805600
375456-7	1560009121806LG	50242A	805601
375456-8	1560009121812LG	50244A	805602
342328-600R	1560005455166LG	01651A	805603

18.DISP-STATION	19.PDN/OP NO.	20.WORK TO BE ACCOMPLISHED	21.MECH	22'P'	23
180-27	010 MNPDD7	PREPAINT TREAT ITEMS AS REQUIRED IAW 1-1-2 AND 1-1-8.			B
180-27	020 MNPDCF	PRIME INTERIOR SIDE OF LEADING EDGE SKINS AS REQUIRED IAW 1-1-4 AND 1-1-8.			B
180-27	030 MNPDCF	PRIME INTERIOR SIDE OF FLAP SKINS AS REQUIRED IAW 1-1-4 AND 1-1-8.			B
140	040	CLEAN & PLATE MISC PARTS AND HARDWARE AS REQUIRED.			
		MANE/8034 MANP/8034 MANS/8034 MAQN/8034			

(COMPUTER GENERATED)

```
[illegible] MATERIAL [illegible]
------------------------------------------------------------------------
[illegible]                                                  [illegible]
 [illegible]            CENTER WING FLAP
------------------------------------------------------------------------
[illegible] SER NO ____________________  [illegible]


14 PART NUMBER   15 STOCK NR        16 PDM IT SCN
3TE450-7         [illegible]
3TE451-1         1560007320229YLG [illegible]
3TE456-5         1560009144807ZLG [illegible]
[illegible]      [illegible]
[illegible]      [illegible]
[illegible]      [illegible]
[illegible]      [illegible]

18 [illegible] ---------------------------------------------------------
STATION [illegible] NO   20 WORK TO BE ACCOMPLISHED    [illegible] MECH [illegible]
-------  -------  -------------------------------------  ------|------
 [illegible] [illegible]  ASSIST QUALITY WITH DUMP EVALUATION.  |
          [illegible]                                           |
-------  -------  -------------------------------------  ------|------
                  [illegible]
                  [illegible]
                  [illegible]
                  [illegible]
```

AFLCR 66-11

SHOP FLOW DAY STANDARD
MISTR C/N 50454A REVIEW DATE 14 Oct 87

A((B / C) + D + E) / F)

A = CONVERSION FACTOR, CHANGING WORKDAYS TO CALENDAR DAYS A = 1.46 — A = 1.46

B = ITEM STANDARD HOURS / NUMBER OF WORKERS TOTAL FOR ALL SHOPS 250.30 / 2 = B — B = 125.15

C = (a) Obtain the RCC yearly indirect time values for duty codes (G037G - EH1 - M1 - MEH)

Duty Code	% Value	Duty Code	% Value
24	0.1	25	0
26	1.7	29	0
		1.00	0.018

(a) = 0.982

(b) Obtain the RCC efficiency factor from the G037G - FD1 - D2 - MFD (YR 87)

JAN	93.9	MAY	94.9	SEP	95.2
FEB	96.7	JUN	95.9	OCT	95.2
MAR	94.5	JUL	94.7	NOV	91.7
APR	91.9	AUG	84.5	DEC	96.8

TOTAL 1125.9 - 12 = 93.8 (b) = 93.8 C = 92.10

Multiply (a) X (b) = C

D = Process Support

	12 Hours
244 Card input/output D033 System	
Transportation time between RCC moves	2.0
Packing	
Unpacking	
Awaiting Maintenance	
Inspection	
Other	
Total Hrs	

D = 14.00

E = Unique Process Support

	Hrs
Plating Process	9.25
Welding Process	
Heat Treat Process	
Paint Process	5.47
Test Warmups	
Wet Tape Test	24.0
Wet Cleaning	16.50
Other	
Total Hrs	

E = 55.22

F = Shift Hours (8) X # of Shifts Working = F = 8

A(((B / C) + D + E) / F)

Number of Flow Days 37

SHOP FLOW DAYS

REVIEW DATE 26 SEPT 86 MSTR C/N 50454A

A	244 CARD INPUT/OUTPUT - D033 SYS.	12.0
B	UNCRATE/PACKING	8.0
C	LABOR: D - ADJR. STD HRS / LABOR EFF x NO. WORKERS = 158.29 / .94 x 2 = 1.88 EM A TOTAL FOR ALL SHOPS	84.19
D	MACHINE PROCESSING. (EG. DRYING, BAKING) IF WET TAPE TEST REQ. 24 HRS	24.0
E	PRODUCTION PROCESSING DELAY. 4 x 4 HRS =	16.0
F	INSPECTION. _____ x 1.0 N/A PAC PROGRAM	0
G	TRANSPORTATION.	2.0
	TOTAL FLOW HOURS	146.19
I	WORK SHIFT ADJUSTMENT. TOTAL FLOW HOURS / # SHIFTS = 146.19 / 1	146.19
J	TOTAL FLOW DAYS WORK SHIFT ADJ / HRS SHIFT = 146.19 / 8 =	18.27
K	CONVERSION TO CALENDAR DAYS 1.45 x 18.27 = 26.49 TOTAL FLOW DAYS	26
L	SUM FLOW DAYS	26

50454A- FLAP C-W 375456-3 RCC MNPSC X 1560-00-603-1491-LG

OPER SUB	STEP	TECH D	S T L	S K	W R K	P A C	PF FA DC	A/R SUPPORT ELEMENT	REV	OCC FACT	DESCRIPTION STORED		DESCRIPTION SUPPLEMENTAL	BASE HOURS	PFD TIME	STD HOURS	DLY	PCT	A C
00100		T	E	SA	EA	T		K	87287	1.00	PERCENT ENGR 99.9		FLAP C-130 P/N 375456-3	158.30		158.30		63	
0010				SA	02		13			1.00			REPAIR FLAP	140.085	18.211	158.297		64	
	0010		E							1.00	3	113.16	TEARDOWN	11.42783		12.913			
	0020		E							1.00	4	284.58	REPAIR	13.71550		15.498			
	0030		E							1.00	4	284.58	REPAIR	13.71550		15.498			
	0040		E							1.00	4	284.58	REPAIR	13.71550		15.498			
	0050		E							1.00	4	284.58	REPAIR	13.71550		15.498			
	0060		E							1.00	4	284.58	REPAIR	13.71550		15.498			
	0070		E							1.00	3	150.66	RESKIN LEADING EDGE	13.45400		15.203			
	0080		E							1.00	5	342.84	RESKIN IN JIG	12.76233		14.421			
	0090		E							1.00	3	132.41	RESKIN ON TABLE	12.47533		14.097			
	0100		E							1.00	3	132.41	RESKIN ON TABLE	12.47533		14.097			
	0110		E							1.00	5	320.25	BUILD-UP	8.91317		10.071			
0700				SA	02		00			1.00			LABOR STANDARD CHANGES	.000	.000	.000		64	

0001 19 SEP 86------- JACK D. FRENZ
0002 OLD STANDARD 167.77
0003 NEW STANDARD 158.30 REDUCED 9.47 HRS.
0004 STANDARD REVIEWED AND ENGINEERED USING GTT.
0005 14 OCT 87 --- LABOR STANDARD INCREASED 92.0 M/HRS
0006 BY ADDING OPERATION 00101, DUE TO AGE AND
0007 CONDITION OF ITEM. K. MORGAN

PART OPERATION SUMMARY 7:25 FRIDAY, FEBRUARY 24, 1989 6

ALC: WARNER ROBBINS RCC: MANPSC SHEETMETAL, SHEETMETAL REPAIR

PN: 342781-501 NSN: PCN: 50454A WCD: MBA53D WCD DATE: 88147

OPERATION: ZPRT PRIMARY OPERATION TYPE: ASSY MATERIAL TYPE: AL

SAMPLE SIZE: 2 MISSING FLOWTIMES: 0 END ITEMS: OUTLIERS DELETED: 0

-------- MANPOWER REQUIRED --------

SKILL	QTY	--- TIME --- FRACTION	HOURS

---------- EQUIPMENT REQUIRED ----------

CODE	CATEGORY	QTY	--- TIME --- FRACTION	HOURS	BATCH MIN	BATCH MAX

HISTORICAL DATA

ACTUAL FREQ	
0	0
10	0
20	0
30	0
40	100
50	0
60	0
70	0
80	0
90	0
>=100	0

RELATIVE FREQUENCY

0 10 20 30 40 50 60 70 80 90 100

****

DISTRIBUTION	PARAMETERS			D VALUE	D ALPHA
UNIFORM	48.0		48.0	1.000	.
TRIANGULAR	48.0	48.0	48.0	.675	.
NORMAL	48.0	.		1.000	.
LOGNORMAL	.	.		1.000	.
EXPONENTIAL	50.4			0.378	.

OCCURRANCE FACTOR: . OCCURRANCES: 2

DISTRIBUTION OF CHOICE: HISTORICAL DISCRETE

SAS

PART OPERATION SUMMARY 7:25 FRIDAY, FEBRUARY 24, 1989 7

ALC: WARNER ROBBINS RCC: MANPDC

PN: 375456-3 NSN: PCN: 50454A WCD: MBB53D WCD DATE: 88034

OPERATION: ZPRT BACKSHOP OPERATION TYPE: MATERIAL TYPE:

SAMPLE SIZE: . MISSING FLOWTIMES: . END ITEMS: . OUTLIERS DELETED: .

-------- MANPOWER REQUIRED --------

SKILL	QTY	--- TIME --- FRACTION	HOURS

---------- EQUIPMENT REQUIRED ----------

CODE	CATEGORY	QTY	--- TIME --- FRACTION	HOURS	BATCH MIN	BATCH MAX

HISTORICAL DATA

ACTUAL FREQ	RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100
0	.
0	.
0	.
0	.
0	.
0	.
0	.
0	.
0	.
0	.
>= 0	.

DISTRIBUTION	PARAMETERS	D VALUE	D ALPHA
UNIFORM	.	.	.
TRIANGULAR	.	.	.
NORMAL	.	.	.
LOGNORMAL	.	.	.
EXPONENTIAL	.	.	.

OCCURRANCE FACTOR: . OCCURRANCES: .

DISTRIBUTION OF CHOICE:

PART OPERATION SUMMARY 7:25 FRIDAY, FEBRUARY 24, 1989 8

ALC: WARNER ROBBINS RCC: MANPSC SHEETMETAL, SHEETMETAL REPAIR

PN: 375456-3 NSN: PCN: 50454A WCD: MB053D WCD DATE: 88147

OPERATION: ZPRT PRIMARY OPERATION TYPE: INS MATERIAL TYPE: AL

SAMPLE SIZE: 30 MISSING FLOWTIMES: 0 END ITEMS: . OUTLIERS DELETED: 0

-------- MANPOWER REQUIRED -------- ---------- EQUIPMENT REQUIRED ----------

SKILL	QTY	--- TIME --- FRACTION	HOURS	CODE	CATEGORY	QTY	--- TIME --- FRACTION	HOURS	BATCH MIN	BATCH MAX

HISTORICAL DATA

ACTUAL FREQ		RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100
0	10	****
10	7	***
20	7	***
30	10	****
40	30	**********
50	20	********
60	10	****
70	7	***
80	0	
90	0	
>=100	0	

DISTRIBUTION	PARAMETERS			D VALUE	D ALPHA
UNIFORM	6.0		72.0	0.156	1.00
TRIANGULAR	6.0	47.0	72.0	0.141	1.00
NORMAL	42.5	19.3		0.103	1.00
LOGNORMAL				1.000	
EXPONENTIAL	43.0			0.254	0.04

OCCURRANCE FACTOR: . OCCURRANCES: 30

DISTRIBUTION OF CHOICE: NORMAL

WORK CONTROL DOCUMENT MB021D 1.DATE 83146 PAGE 1 OF 4 PA

2 PSSD/RCC	3.MATERIAL	4.MIC	5.EFRC	6 QTY	7 SCHED DT	8.COMP
MNPSCT						

9.MODEL/DESIGN/SERIES	10.NOUN	11.ITEM SERIAL
C-130	ELEVATOR	

12.BCN 12A. SER NO._____

13.TECH DATA/OPTIONAL
1-1-2, 1-1-4, 1-1-8
1C-130A-23
1C-130A-36, 1C-130A-3,
33B-1-1, 1C-130A/B/H-4,

14.PART NUMBER	15.STOCK NR.	16.PDN	17.BCN
370184-15	1560007381003LG	50464A	806537
370184-16	1560007381004LG	50465A	806538
370018-5	1560009283106LG	50266A	806539
370018-6	1560009283105LG	50250A	806540
370018-1R	1560006217838LG	50144A	806541
370018-1L	1560006217839LG	50502A	806542
353933-601R	1560005756166LG	03558A	806543
353933-601L	1560005710541LG	04154A	806544
353933-600L	1560005710537LG	04853A	806545

18.DISP-19.PDN/ STATION	OP NO.	20.WORK TO BE ACCOMPLISHED	21.MECH	22'P'	23
169-29	010 MNPSCT	REMOVE TAB & LEADING EDGE ACCESS DOOR.			
180-27	020 MNPDD7	CLEAN AND DEPAINT IAW T.O. 1-1-2. CLEAN AND DEPAINT ITEM 2, 3, AND 4. REFERENCE T.O. 1C-130A-36. FOR POSSIBLE NDI INSPECTION.			B
180-27	030 MNPDD7	REMOVE CORROSION IAW T.O. 1-1-2.			B
169-29	035 MNPSCT	SHAKE DOWN FOR FOD PRIOR TO REWORK, DISASSEMBLE ELEVATOR AS REQUIRED.			
180-37	038 MNPDD7	CLEAN INTERIOR OF ELEVATOR IAW T.O. 1-1-2 AS REQUIRED.			B
169-29	040 MNPSCT	VISUAL INSPECT ITEM 1 AND 2 ON ELEVATOR AND ITEM 3 AND 4 ON TRIM TAB IAW TO 1C-130A-36. REF TO 1C-130A-3. RECORD FINDINGS BELOW: ITEM 1_____ ITEM 2_____ ITEM 3_____ ITEM 4_____ THE FOLLOWING SAFETY PRECAUTIONS SHALL BE OBSERVED WHEN PERFORMING PENETRANT INSPECTION. WARNING: PROLONGED OT REPEATED INHALATION OF VAPORS OR POWDERS MAY RESULT IN IRRITATION OF MUCOUS MEMBRANE AREAS OF THE BODY. A. ADEQUATE VENTILATION SHALL BE			B

18.DISP-19.PDN STATION	OP NO.	20.WORK TO BE ACCOMPLISHED	21.MECH	22'P'	23
		USED WHEN HANDLING CLEANER, EMULSIFIERS, PENETRANTS OR DEVELOPERS. WARNING: CONTINUAL EXPOSURE TO PENETRANT INSPECTION MATERIAL MAY CAUSE SKIN IRRITATION. B. THE FOLLOWING PRECAUTIONS SHALL BE USED WHEN HANDLING CLEANERS, EMULSIFIERS, PENETRANTS, OR DEVELOPERS. 1. AVOID CONTACT OF PENETRANT INSPECTION MATERIALS BY WEARING NEOPRENE GLOVES. 2. KEEP INSIDES OF NEOPRENE GLOVES CLEAN. 3. WASH EXPOSED AREAS OF BODY WITH SOAP AND WATER. 4. CHECK FOR TRACES OF FLUORESCENT PENETRANTS ON SKIN, CLOTHES, AND GLOVES USING BLACKLIGHT SOURCE. WARNING: INJURY TO EYES AND SKIN MAY OCCUR WHEN BLACKLIGHT IS NOT USED IAW MANUFACTURER'S INSTRUCTIONS.UNFILTERED LIGHT SOURCES (IF FILTER IS REQUIRED.) MAY POSSIBLY DAMAGE THE EYES. C. FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN USING BLACKLIGHT SOURCES, AND FILTER ALL LIGHT SOURCES REQUIRING FILTERING. WARNING TEMPERATURES IN EXCESS OF 120 DEGREES F MAY CAUSE BURSTING OF THE PRESSURIZED CAN AND INJURY TO PERSONNEL. D. STORE ALL PRESSURIZED SPRAY CANS IN A COOL, DRY AREA PROTECTED FROM DIRECT SUNLIGHT. AVOID EXPOSURE OF PRESSURIZED SPRAY CANS TO OPEN FLAME WARNING: VOLATILE FUMES MAY OCCUR, CREATING BOTH A FIRE AND HEALTH HAZARD. E. EXERCISE EXTREME CAUTION WHEN HANDLING PENETRANTS WHICH HAVE BEEN HEATED TO THE POINT WHERE SOME OF ITS LIGHTER CONSTITUENTS ARE DRIVEN OFF.			
169-29	050 MNPSCT	ITEMS THAT APPEAR TO HAVE CRACKS WILL BE DYE PENETRANT INSPECTED IAW TO 1C-130A-36. CHAPTER 6, PENETRANT INSPECTION KIT-FLOURESCENT TYPE 1, METHOD C, GROUP VII, MIL-I-25135. RECORD RESULTS BELOW: ITEM 1._____ ITEM 2._____ ITEM 3._____ ITEM 4._____	K		

18.DISP-19.PDN/ STATION	OP NO.	20.WORK TO BE ACCOMPLISHED	21.MECH	22'P'	23
169-29	080 MNPSCT	REPAIR RIVETED TAB IAW T.O. 1C-130A-3. IF REPAIR IS REQUIRED OTHER THAN BRACKET AND HINGES ON HONEYCOMB TAB. REPLACE.			
169-29	090 MNPSCT	REPAIR/REPLACE OUTER SKINS AND STRUCTURE DAMAGE IAW TO 1C-130A-3. INSPECT FOR TOOLS & FOD PRIOR TO CLOSING.			B
169-29	110 MNPSCT	REPAIR/REPLACE TIP AND STRUCTURE DAMAGE IAW T.O. 1C-130A-3. INSPECT FOR FOD.			B
169-29	120 MNPSCT	REPAIR/REPLACE TRAILING EDGE AND STRUCTURE DAMAGE IAW T.O. 1C-130A-3. INSPECT FOR FOD.			B
169-29	130 MNPSCT	REPAIR LEADING EDGE COVER AND STRUCTURE DAMAGE IAW T.O. 1C-130A-3.			B
169-29	135 MNPSCT	REPAIR/REPLACE ITEM 1 OR 2 AS REQUIRED IAW T.O. 1C-130A-3.			B
169-29	140 MNPSCT	REPAIR OR REPLACE ITEM 3 AND 4 ON TAB IAW T.O. 1C-130A-3.			B
169-29	145 MNPSCT	CHECK/REPAIR/REPLACE TAB ACTUATOR MECHANISM IAW T.O. 1C-130A-3.			B
169-29	150 MNPSCT	INSTALL TAB. DO NOT HOOK UP ACTUATOR.			
169-29	155 MNPSCT	SEAL ALL EXTERIOR JOINTS, SPLICES AND SEAMS IAW 1C-130A-3.			
180	160 MNPDD7	PREPAINT TREAT IAW T.O. 1-1-2 AND 1-1-8. RECORD TIME: _____ DATE: _____ NOTE: ITEM MUST BE PAINTED WITHIN 48 HOURS.			B
180-27	175 MNPDCF	FINISH ELEVATOR TAB COVE AND LEADING EDGE ON TAB IAW T.O. 1-1-4 AND 1-1-8.			B
180-27	180 MNPDCF	FINISH IAW T.O. 1C-130A-3, 1-1-4, AND 1-1-8. TIME: _____ DATE: _____			B
180-27	181 MNPDCF	CHECK BALANCE IAW T.O. 1C-130A-3 1-1-4.			B
180-27	185 MNPDCF	A. FORTY-EIGHT HOURS AFTER PAINT, WET TAPE TEST IAW T.O. 1-1-8. B. WET TAPE TEST STARTED: DATE: _____ TIME: _____			B

18.DISP-19.PDN/ STATION	OP NO.	20.WORK TO BE ACCOMPLISHED	21.MECH	22.P'	23
169-29	187 MNPSCT	HOOK UP TAB ACTUATOR MECHANISM IAW T.O. 1C-130A/B/H-4.			
140	188 MNPDBS	ADD LEAD TO WEIGHT ASSY AS REQUIRED IAW 83C0004.			
169-29	190 MNPSCT	VISUAL INSPECT. INSPECT FOR TOOLS AND FOREIGN OBJECTS. TAG AND TURN IN.			5
169-29	200 MNPSCT	FILL OUT AFTO FORM 349. INSTALL WR-ALC DECAL.			
		MANE/8146 MANP/8146 MANS/8146 MAQN/8146			

AFLCR 66-11

SHOP FLOW DAY STANDARD
MISTR C/N 5Ø266A REVIEW DATE 7 Dec 87

A((B / C) + D + E) / F)

A = CONVERSION FACTOR, CHANGING WORKDAYS TO CALENDAR DAYS A = 1.46 — A = 1.46

B = ITEM STANDARD HOURS / NUMBER OF WORKERS
TOTAL FOR ALL SHOPS 180.07 / 4 = B — B = 45.02

C = (a) Obtain the RCC yearly indirect time values for duty codes (G037G - EH1 - M1 - MEH)

Duty Code	% Value	Duty Code	% Value
24	0.1	25	Ø
26	1.7	29	Ø

1.00 - _____ (a) = 0.0982

(b) Obtain the RCC efficiency factor from the G037G - FD1 - D2 - MFD (YR 87)

JAN	93.9	MAY	94.9	SEP	95.2
FEB	96.7	JUN	95.9	OCT	95.2
MAR	94.5	JUL	94.7	NOV	91.7
APR	91.9	AUG	84.5	DEC	96.8

TOTAL 1125.9 - 12 = (b) = 93.8 C = 92.10
Multiply (a) X (b) = C

D = Process Support

	12 Hours
244 Card input/output D033 System	
Transportation time between RCC moves	2.Ø
Packing	
Unpacking	
Waiting Maintenance	
Inspection	
Other	

D = 14.Ø

E = Unique Process Support

Sealant	.75	
Plating Process		Hrs
Welding Process		
Heat Treat Process		
Paint Process	4.22	
Electrical		
Wet Tape Test	24.Ø	
Wet Cleaning	15.Ø	
Other		

E = 4397

F = Shift Hours (8) X # of Shifts Working = F = 8

A(((B / C) + D + E) / F)

Number of Flow Days 14

SHOP FLOW DAYS

REVIEW DATE 2 JAN 86 MISTR C/N 50266A

A	244 CARD INPUT/OUTPUT - 1033 SYS.	12.0
B	UNCRATE/PACKING	8.0
C	LABOR: D = ADJR. STD HRS / EN = LABOR EFF x NO. WORKERS = 219.84 / .94 x 2 = 1.88	116.94
	A TOTAL FOR ALL SHOPS	
D	MACHINE PROCESSING, (EG. DRYING, BAKING) IF WET TAPE TEST REQ. 24 HRS	24.0
E	PRODUCTION PROCESSING DELAY. 6 x 4 HRS =	24.0
F	INSPECTION. ____ x 1.0 N/A	0
	TRANSPORTATION.	2.5
H	TOTAL FLOW HOURS	187.44
I	WORK SHIFT ADJUSTMENT. TOTAL FLOW HOURS / # SHIFTS = 187.44 / 1	187.44
J	TOTAL FLOW DAYS WORK SHIFT ADJ / HRS SHIFT = 187.44 / 8 =	23.43
K	CONVERSION TO CALENDAR DAYS 1.45 x 23.43 = 33.97 TOTAL FLOW DAYS	33.97
L	SUM FLOW DAYS	34

FLOW PROCESS CHART

1. NUMBER: 50464A
2. PAGE NO: 1
3. NO OF P: 2

4. PROCESS: REPAIR ELEVATOR
6. [ ] MAN OR [✓] MATERIAL
7. CHART BEGINS: RECEIVE FROM SUPPLY
8. CHART ENDS: TURN IN
9. CHARTED BY: C.G. Miller
10. DATE: 21 APR 78
11. ORGANIZATION: MANERR

5. SUMMARY

a. ACTIONS	b. PRESENT NO.	b. PRESENT TIME	c. PROPOSED NO.	c. PROPOSED TIME	d. DIFFERENCE NO.	d. DIFFERENCE TIME
OPERATIONS						
TRANSPORTATIONS						
INSPECTIONS						
DELAYS						
STORAGES						
DISTANCE TRAVELLED (Feet)						

12a. DETAILS OF [✓] PRESENT [ ] PROPOSED METHOD	b. OPERATION	TRANSPORTATION	INSPECTION	DELAY	STORAGE	c. DISTANCE IN FEET	d. QUANTITY	e. TIME	f. ANALYSIS WHY? WHAT?	WHERE?	WHEN?	WHO?	HOW?	g. NOTES	h. ANALYSIS CH ELIMINATE	COMBINE	SEQUENCE	PLACE
1. RECEIVE FROM SUPPLY	○	⇨	□	D	▽			—										
2. DELAY	○	⇨	□	●	▽			2.0										
3. UNCRATE	●	⇨	□	D	▽			8.0										
4. MOVE TO S/M SHOP	○	●	□	D	▽			1.0										
5. REMOVE TAB	●	⇨	□	D	▽			—										
6. DELAY	○	⇨	□	●	▽			2.0										
7. MOVE TO CLEANING	○	●	□	D	▽			1.0										
8. DELAY	○	⇨	□	●	▽			2.0										
9. CLEAN	●	⇨	□	D	▽			6.59										
10. DELAY FOR DRYING	○	⇨	□	●	▽			4.0										
11. MOVE TO S/M SHOP	○	●	□	D	▽			1.0										
12. DELAY	○	⇨	□	●	▽			2.0										
13. REPAIR ELEVATOR	●	⇨	□	D	▽		1	23.45										
14. INSPECT	○	⇨	■	D	▽		7	7.0										
15. DELAY	○	⇨	□	●	▽			2.0										
16. MOVE TO PAINT SHOP	○	●	□	D	▽			1.0										
17. DELAY	○	⇨	□	●	▽			2.0										
18. PAINT & BALANCE ELEVATOR	●	⇨	□	D	▽			8.25										
19. DELAY FOR DRYING	○	⇨	□	●	▽			8.0										
20. INSPECT	○	⇨	■	D	▽			1.0										
21. MOVE TO S/M SHOP	○	●	□	D	▽			1.0										

AILS OF ☑ PRESENT ☐ PROPOSED METHOD	OPERATION	TRANSPORTATION	INSPECTION	DELAY	STORAGE	DISTANCE IN FEET	QUANTITY	TIME	ANALYSIS WHY? WHAT?	WHERE?	WHEN?	WHO?	HOW?	NOTES	ANALYSIS ELIMINATE	COMBINE	CH SEQUENCE	PLACE	PERSON	SIMPLIFY
22. DELAY	○	⇨	□	●	▽			2.0												
23. FINAL INSPECT	○	⇨	■	D	▽			1.0												
24. TURN IN	●	⇨	□	D	▽															
25.	○	⇨	□	D	▽															
26.	○	⇨	□	D	▽															
27.	○	⇨	□	D	▽															
28.	○	⇨	□	D	▽															
29.	○	⇨	□	D	▽															
30.	○	⇨	□	D	▽															
31.	○	⇨	□	D	▽															
32.	○	⇨	□	D	▽															
33.	○	⇨	□	D	▽															
34.	○	⇨	□	D	▽															
35.	○	⇨	□	D	▽															
36.	○	⇨	□	D	▽															
37.	○	⇨	□	D	▽															
38.	○	⇨	□	D	▽															
39.	○	⇨	□	D	▽															
40.	○	⇨	□	D	▽															
41.	○	⇨	□	D	▽															
42.	○	⇨	□	D	▽															
43.	○	⇨	□	D	▽															
44.	○	⇨	□	D	▽															
	○	⇨	□	D	▽															
46.	○	⇨	□	D	▽															
47.	○	⇨	□	D	▽															

LABOR STANDARD OPERATION RESOURCE STANDARD AND METHOD ANALYSIS 01/30/84 A-E046B-MM1-DY-M45 PAGE 0001

50266A C130 ELEVATOR RCC MNPSC 0 156000928310 6LG

OPER SUB STEP	TECH B	S T L	TYPE F	W E C	PF A PA DO	A/R SUPPORT ELEMENT	OCC FACT	<---------- DESCRIPTION ----------> STORED	SUPPLEMENTAL	BASE HOURS	PFD TIME	STD HOURS	DLY	PCT	A C
00100		E	N	SA	EA	T	K 81246	1.00 PERCENT ENGR .0	REPAIR ELEVATOR 308N	197.84		197.84		100	
0010				SA	04	00		1.00	S/M REPAIR ELEVATOR	197.839	.000	197.839		100	
0010			N					1.00	REC/IDENT/HANDLE	1.50000		1.500			
0020			N					1.00	ASSIGN SERIAL NUMBER	.50000		.500			
0030			N					1.00	GATHER & SET-UP TOOLS	.36800		.368			
0040			N					1.00	SHAKEDOWN & MARK DAMAGES	2.19500		2.195			
0050			N					1.00	REMOVE TAB & WEIGH	1.71500		1.715			
0060			N					1.00	REM/CK/WEIGH/REPL COUNT BAL	5.00000		5.000			
0070			N					1.00	INSTALL ELEV IN JIG	3.19800		3.198			
0080			N					1.00	REMOVE LEADING EDGE	10.52100		10.521			
0090			N					1.00	MFT/FIT LEADING EDGE SEC	10.21900		10.219			
0100			N					1.00	INSTALL LEADING EDGE SEC	11.89700		11.897			
0110			N					1.00	STRAIGHTEN TRAILING EDGE	.86500		.865			
0120			N					1.00	REMOVE SKINS	24.00000		24.000			
0130			N					1.00	STRAIGHTEN OLD SKINS/TEMP	.78500		.785			
0140			N					1.00	MFR/TRIM/DRILL/FIT NEW SKINS	22.49300		22.493			
0150			N					1.00	DEBURR/COUNTER SINK/DIMPLE	15.00000		15.000			
0160			N					1.00	ALODINE/PRIME SKINS	9.00000		9.000			
0170			N					1.00	SEAL BETWEEN RIBS & SKINS	6.00000		6.000			
0180			N					1.00	CHECK TOOLS/FO PRIOR CLOSING	.50000		.500			
0190			N					1.00	INSTALL NEW SKINS	48.00000		48.000			
0200			N					1.00	REMOVE ELEV FROM JIG	3.35400		3.354			
0210			N					1.00	REMOVE DENTS/SCRATCHES	3.43800		3.438			
0220			N					1.00	REMOVEPREPLACE TIP	2.08500		2.085			
0230			N					1.00	REM/MFR/REPL DOUBLERS	12.00000		12.000			
0240			N					1.00	INSTALL TAB	1.31500		1.315			
0250			N					1.00	REPLACE DEFECTIVE HARDWARE	1.25800		1.258			
0260			N					1.00	FINAL INSPECTION	.12700		.127			
0270			N					1.00	COMPLETE AFTO FORM 349	.15700		.157			
0280			N					1.00	ATTACH WR/ALC DECAL	.16800		.168			
0290			N					1.00	TAG AND TURN IN	.18300		.183			
0700				SA	04	00		1.00	LABOR STANDARD CHANGES	.000	.000	.000		0	

0001 12 AUG 83 W H BELFLOWER
0002 STD INC DUE TO OVER MAX WEIGHT & DETERIORATION
0003 OLD STD WAS 123.45 MH

TOTAL RESOURCE CENTER END ITEM STANDARD AS OF 01/30/84 197.84

PART OPERATION SUMMARY

ALC: WARNER ROBBINS RCC: MANPSC SHEETMETAL, SHEETMETAL REPAIR

PN: 370018-5 NSN: PCN: 50266A WCD: MB021D WCD DATE: 88146

OPERATION: ZPRT PRIMARY OPERATION TYPE: ASSY MATERIAL TYPE: AL
SAMPLE SIZE: 4 MISSING FLOWTIMES: 0 END ITEMS: . OUTLIERS DELETED: 0

MANPOWER REQUIRED				EQUIPMENT REQUIRED					
		--- TIME ---					--- TIME ---		BATCH
SKILL	QTY	FRACTION	HOURS	CODE	CATEGORY	QTY	FRACTION	HOURS	MIN MAX

HISTORICAL DATA

ACTUAL FREQ		RELATIVE FREQUENCY 0 10 20 30 40 50 60 70 80 90 100	DISTRIBUTION	PARAMETERS		D VALUE	D ALPHA
0	0		UNIFORM	20.0	44.0	0.420	.
5	0		TRIANGULAR	.	.	1.000	.
10	0		NORMAL	32.3	13.6	0.286	.
15	0		LOGNORMAL	.	.	1.000	.
20	50	**********	EXPONENTIAL	34.0		0.266	.
25	0						
30	0						
35	0						
40	50	**********					
45	0						
>=50	0						

OCCURRANCE FACTOR: . OCCURRANCES: 4

DISTRIBUTION OF CHOICE: HISTORICAL DISCRETE

MANPSC

06692A

50164A

51402A

50454A

50266A

OPERATION PROFILE

NAME GM Buckley ALC WR-ALC DATE 4-22-84 RCC MANDSC SHEET 1 OF 1

PCN
NSN
PN 066928

WCD MB014 WCD DATE 87363

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/ LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
	M			TRANSIT		–				–					George Stone
	A														Labor Supervisor
	N			SETUP		–				–					#926-4410
	D														+
	S			PROCESS											Mark Shirley for
CCCC	C	REC	1.00			1.0	9WG05	1		0.1					Labor Supervisor
	M			TRANSIT		–				–					Linky Cyprian
	A														Labor Supervisor
	N			SETUP		–				–					T.O. 1C-
	D														130A-3
010	S	REV	1.00	PROCESS		1.0	9A014	1		1.0					Applicable
	C														Drawings
WCD - Operations Listed Begin 010 Thru 200 Reviewed Data Transferred - up Computer Copy.				TRANSIT											
				SETUP											
				PROCESS											
		Cannon Buckley	4-22-84	TRANSIT											
				SETUP											
				PROCESS											
	M			TRANSIT		–				–					Mabel Smith
	A														Labor Supervisor
	N			SETUP		–				–					#926-4410
	O														
	S			PROCESS											Linky Cyprian
9999	C	9999	1.00			1.0	9A014	1		2.0					#926-3615

OPERATIONS PROFILE

NAME GM Burtibay ALC WR-ALC DATE 5-10-89 RCC MAINOSC SHEET 1 OF ___

PCN / NSN / P/N #066998 WCD MBB144 WCD DATE 8 3 83

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/ LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
010	MNOSQ		0.1	TRANSIT											
				SETUP											
				PROCESS		20.0									
				TRANSIT											
				SETUP											
				PROCESS											
				TRANSIT											
				SETUP											
				PROCESS											
				TRANSIT											
				SETUP											
				PROCESS											
				TRANSIT											
				SETUP											
				PROCESS											

OPERATIONAL PROFILE

NAME GM Buckley ALC NWK-ALC DATE 5-10-84 RCC MANOSAC SHEET 1 OF 1

ECN
NSN
PIN 4 016 620

WCD MBC144 WCD DATE 88144

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/ LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
010	MNOSAC	BEG.	1.00	TRANSIT		1.0	9WG05	1		.50					
				SETUP											
				PROCESS		5.0									
020	MNOSAC	BEGIN.	1.00	TRANSIT											
				SETUP											
				PROCESS		20.0									
030	MNOSAC	BEGIN.	1.00	TRANSIT											
				SETUP											
				PROCESS		20.0									
				TRANSIT											
				SETUP											
				PROCESS											
				TRANSIT											
				SETUP											
				PROCESS											

OPERATION PROFILE

NAME A.M. Cuseby ALC WR DATE 5-10-89 RCC MANPSC SHEET 1 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPPC		~~0.84~~	1.00	T	.		.	.	.		.	.	.	MA. MARK
10	MANPPC		.	.	S	.		.	.	.		.	.	.	# 926-4300
10	MANPPC		.	.	P	1.00		.	.	.		.	.	.	
20	MANPDD		1.00	1.00	T	1.00	920605	1	.	.50		.	.	.	
20	MANPDD		.	.	S	.		.	.	.		.	.	.	
20	MANPDD		.	.	P	30.0		.	.	.		.	.	.	
30	MANPSA	INS	0.98	1.00	T	1.00	920605	1	.	.50		.	.	.	
30	MANPSA	INS	.	.	S	.		.	.	.		.	.	.	
30	MANPSA	INS	.	.	P	10.0		.	.	.		.	.	.	
40	MANPSA	INS	1.00	1.00	T	.		.	.	.		.	.	.	
40	MANPSA	INS	.	.	S	.		.	.	.		.	.	.	
40	MANPSA	INS	.	.	P	10.0		.	.	.		.	.	.	
60	MANPSA	REP	1.00	1.00	T	.		.	.	.		.	.	.	

SAS

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 2 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
60	MANPSA	REP	.	.	S	.		.	.	.		.	.	.	
60	MANPSA	REP	.	.	P	20.0		.	.	.		.	.	.	
70	MANPSA	ASSY	1.00	1.00	T	.		.	.	.		.	.	.	
70	MANPSA	ASSY	.	.	S	.		.	.	.		.	.	.	
70	MANPSA	ASSY	.	.	P	20.0		.	.	.		.	.	.	
75	MANPSC	DIS	0.97	1.00	T	1.0	9W005	1	.	.50		.	.	.	
75	MANPSC	DIS	.	.	S	.		.	.	.		.	.	.	
75	MANPSC	DIS	.	.	P	.	9A014	1	.	1.0		.	.	.	
75	MANPSC	DIS	.	.	P	.	9A012	1	.	1.0		.	.	.	
85	MANPSC	DIS	1.00	1.00	T	.		.	.	.		.	.	.	
85	MANPSC	DIS	.	.	S	.		.	.	.		.	.	.	
85	MANPSC	DIS	.	.	P	.	9A014	1	.	1.0		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 3 OF 23

ITEM CD PCN 06892A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
85	MANPSC	DIS	.	.	P	.	9A012	1	.	1.0		.	.	.	
90	MANPSC	INS	0.99	1.00	T	.		.	.	.		.	.	.	
90	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
90	MANPSC	INS	.	.	P	.	9A014	1	.	1.0		.	.	.	
90	MANPSC	INS	.	.	P	.	9A012	1	.	1.0		.	.	.	
100	MANPSC	PROC	0.97	1.00	T	.		.	.	.		.	.	.	
100	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
100	MANPSC	PROC	.	.	P	.	9A014	1	.	16.0		.	.	.	
100	MANPSC	PROC	.	.	P	.	9A012	1	.	16.0		.	.	.	
130	MANPSC	DIS	0.99	1.00	T	.		.	.	.		.	.	.	
130	MANPSC	DIS	.	.	S	.		.	.	.		.	.	.	
130	MANPSC	DIS	.	.	P	.	9A014	1	.	24.0		.	.	.	
130	MANPSC	DIS	.	.	P	.	9A012	1	.	24.0		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 4 OF 23

ITEM CD PCN 08692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
135	MANPSC	INS	1.00	1.00	T	.		.	.	.		.	.	.	
135	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
135	MANPSC	INS	.	.	P	.	9A014	1	.	2.0		.	.	.	
135	MANPSC	INS	.	.	P	.	9A012	1	.	2.0		.	.	.	
140	MANPDD		0.94	1.00	T	1.00	9WG05	1	.	.50		.	.	.	
140	MANPDD		.	.	S	.		.	.	.		.	.	.	
140	MANPDD		.	.	P	30.0		.	.	.		.	.	.	
150	MANPSC	PROC	0.98	1.00	T	1.00	9WG05	1	.	.50		.	.	.	
150	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
150	MANPSC	PROC	.	.	P	.	9A014	1	.	1.0		.	.	.	
150	MANPSC	PROC	.	.	P	.	9A012	1	.	1.0		.	.	.	
151	MANPSC	ASSY	1.00	1.00	T	.		.	.	.		.	.	.	

SAS

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 5 OF 23

ITEM CD PCN D8692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
151	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
151	MANPSC	ASSY	.	.	P	.	9A014	1	.	0.5		.	.	.	
151	MANPSC	ASSY	.	.	P	.	9A012	1	.	0.5		.	.	.	
152	MANPSC	PROC	1.00	1.00	T	.		.	.	.		.	.	.	
152	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
152	MANPSC	PROC	.	.	P	.	9A014	1	.	0.1		.	.	.	
152	MANPSC	PROC	.	.	P	.	9A012	1	.	0.1		.	.	.	
153	MANPSC	PROC	1.00	1.00	T	.		.	.	.		.	.	.	
153	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
153	MANPSC	PROC	.	.	P	.	9A014	1	.	0.5		.	.	.	
153	MANPSC	PROC	.	.	P	.	9A012	1	.	0.5		.	.	.	
154	MANPSC	ASSY	1.00	1.00	T	.		.	.	.		.	.	.	
154	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

SAS

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 6 OF 23

ITEM CD PCN 08892A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
154	MANPSC	ASSY	.	.	P	.	9A014	1	.	0.2		.	.	.	
154	MANPSC	ASSY	.	.	P	.	9A012	1	.	0.2		.	.	.	
155	MANPSC	PROC	1.00	1.00	T	.		.	.	.		.	.	.	
155	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
155	MANPSC	PROC	.	.	P	.	9A014	1	.	0.3		.	.	.	
155	MANPSC	PROC	.	.	P	.	9A012	1	.	0.3		.	.	.	
156	MANPSC	PROC	1.00	1.00	T	.		.	.	.		.	.	.	
156	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
156	MANPSC	PROC	.	.	P	.	9A014	1	.	0.1		.	.	.	
156	MANPSC	PROC	.	.	P	.	9A012	1	.	0.1		.	.	.	
157	MANPSC	INS	1.00	1.00	T	.		.	.	.		.	.	.	
157	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE SAS

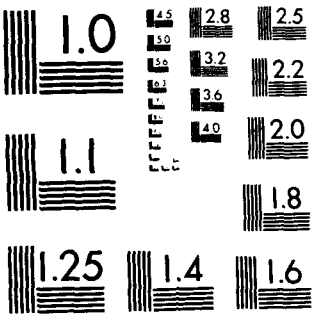
NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 7 OF 23

ITEM CD PCN 08892A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
157	MANPSC	INS	.	.	P	.	9A014	1	.	1.0		.	.	.	
157	MANPSC	INS	.	.	P	.	9A012	1	.	1.0		.	.	.	
158	MANPSC	PROC	1.00	1.00	T	.		.	.	.		.	.	.	
158	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
158	MANPSC	PROC	.	.	P	.	9A014	1	.	0.3		.	.	.	
158	MANPSC	PROC	.	.	P	.	9A012	1	.	0.3		.	.	.	
159	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
159	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
159	MANPSC	PROC	.	.	P	.	9A014	1	.	0.2		.	.	.	
159	MANPSC	PROC	.	.	P	.	9A012	1	.	0.2		.	.	.	
160	MANPSC	NDI	0.98	1.00	T	.		.	.	.		.	.	.	
160	MANPSC	NDI	.	.	S	.		.	.	.		.	.	.	
160	MANPSC	NDI	.	.	P	.	9A014	1	.	0.5		.	.	.	

AD-A237 083 TECHNOLOGY INSERTION (TI)/INDUSTRIAL PROCESS IMPROVEMENT (IPI) TASK ORDER..(U) MCDONNELL DOUGLAS MISSILE SYSTEMS CO ST LOUIS MO 14 AUG 89 XF-AFLC 2/3

UNCLASSIFIED F33600-88-D-0567 NL



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 6 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
170	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
170	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
170	MANPSC	PROC	.	.	P	.	9A014	1	.	8.0		.	.	.	
170	MANPSC	PROC	.	.	P	.	9A012	1	.	8.0		.	.	.	
171	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
171	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
171	MANPSC	PROC	.	.	P	.	9A014	1	.	4.0		.	.	.	
171	MANPSC	PROC	.	.	P	.	9A012	1	.	4.0		.	.	.	
172	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
172	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
172	MANPSC	PROC	.	.	P	.	9A014	1	.	4.0		.	.	.	
172	MANPSC	PROC	.	.	P	.	9A012	1	.	4.0		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 9 OF 23

ITEM CD PCN 08892A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
174	MANPSC	ASSY	0.98	1.00	T	.		.	.	.		.	.	.	
174	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
174	MANPSC	ASSY	.	.	P	.	9A014	1	.	4.0		.	.	.	
174	MANPSC	ASSY	.	.	P	.	9A012	1	.	4.0		.	.	.	
175	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
175	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
175	MANPSC	PROC	.	.	P	.	9A014	1	.	1.0		.	.	.	
175	MANPSC	PROC	.	.	P	.	9A012	1	.	1.0		.	.	.	
176	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
176	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
176	MANPSC	PROC	.	.	P	.	9A014	1	.	1.0		.	.	.	
176	MANPSC	PROC	.	.	P	.	9A012	1	.	1.0		.	.	.	
177	MANPSC	INS	0.98	1.00	T	.		.	.	.		.	.	.	

OPERATION PROFILE

SAS

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 10 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
177	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
177	MANPSC	INS	.	.	P	.	9A014	1	.	0.5		.	.	.	
180	MANPSC	ASSY	0.98	1.00	T	.		.	.	.		.	.	.	
180	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
180	MANPSC	ASSY	.	.	P	.	9A014	1	.	1.5		.	.	.	
180	MANPSC	ASSY	.	.	P	.	9A012	1	.	1.5		.	.	.	
181	MANPSC	ASSY	0.99	1.00	T	.		.	.	.		.	.	.	
181	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
181	MANPSC	ASSY	.	.	P	.	9A014	1	.	1.5		.	.	.	
181	MANPSC	ASSY	.	.	P	.	9A012	1	.	1.5		.	.	.	
182	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
182	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE SAS

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 4 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
182	MANPSC	PROC	.	.	P	.	9A014	1	.	3.0		.	.	.	
182	MANPSC	PROC	.	.	P	.	9A012	1	.	3.0		.	.	.	
185	MANPSC	PROC	0.93	1.00	T	.		.	.	.		.	.	.	
185	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
185	MANPSC	PROC	.	.	P	.	9A014	1	.	0.3		.	.	.	
185	MANPSC	PROC	.	.	P	.	9A012	1	.	0.3		.	.	.	
186	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
186	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
186	MANPSC	PROC	.	.	P	.	9A012	1	.	0.1		.	.	.	
187	MANPSC	PROC	0.96	1.00	T	.		.	.	.		.	.	.	
187	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
187	MANPSC	PROC	.	.	P	.	9A014	1	.	0.5		.	.	.	
187	MANPSC	PROC	.	.	P	.	9A012	1	.	0.5		.	.	.	

OPERATION PROFILE

SAS

NAME _____ ALC WR DATE _____ RCC MANPSC

ITEM CD PCN 08692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
188	MANPSC	ASSY	0.99	1.00	T	.		.	.	.		.	.	.	
188	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
188	MANPSC	ASSY	.	.	P	.	9A014	1	.	16.0		.	.	.	
188	MANPSC	ASSY	.	.	P	.	9A012	1	.	16.0		.	.	.	
191	MANPSC	ASSY	0.99	1.00	T	.		.	.	.		.	.	.	
191	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
191	MANPSC	ASSY	.	.	P	.	9A014	1	.	8.0		.	.	.	
191	MANPSC	ASSY	.	.	P	.	9A012	1	.	8.0		.	.	.	
193	MANPSC	ASSY	0.98	1.00	T	.		.	.	.		.	.	.	
193	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
193	MANPSC	ASSY	.	.	P	.	9A014	1	.	6.0		.	.	.	
193	MANPSC	ASSY	.	.	P	.	9A012	1	.	6.0		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 13 OF 23

ITEM CD PCN 08692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
194	MANPSC	ASSY	0.97	1.00	T	.		.	.	.		.	.	.	
194	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
194	MANPSC	ASSY	.	.	P	.	9A012	1	.	6.0		.	.	.	
194	MANPSC	ASSY	.	.	P	.	9A014	1	.	6.0		.	.	.	
195	MANPSC	PROC	0.97	1.00	T	.		.	.	.		.	.	.	
195	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
195	MANPSC	PROC	.	.	P	.	9A012	1	.	3.0		.	.	.	
195	MANPSC	PROC	.	.	P	.	9A014	1	.	3.0		.	.	.	
196	MANPSC	PROC	0.98	.	T	.		.	.	.		.	.	.	
196	MANPSC	PROC	.	1.00	S	.		.	.	.		.	.	.	
196	MANPSC	PROC	.	.	P	.	9A012	1	.	0.3		.	.	.	
196	MANPSC	PROC	.	.	P	.	9A014	1	.	0.3		.	.	.	
197	MANPSC	PROC	0.97	1.00	T	.		.	.	.		.	.	.	

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 44 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
197	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
197	MANPSC	PROC	.	.	P	.	9A012	1	.	8.1		.	.	.	
197	MANPSC	PROC	.	.	P	.	9A014	1	.	8.1		.	.	.	
199	MANPSC	INS	0.99	1.00	T	.		.	.	.		.	.	.	
199	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
199	MANPSC	INS	.	.	P	.	9A012	1	.	0.2		.	.	.	
199	MANPSC	INS	.	.	P	.	9A014	1	.	0.2		.	.	.	
200	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
200	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
200	MANPSC	PROC	.	.	P	.	9A014	1	.	0.5		.	.	.	
200	MANPSC	PROC	.	.	P	.	9A012	1	.	0.5		.	.	.	
201	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	

OPERATION PROFILE SAS

NAME _____

ITEM CD PCN 06692A

ALC WR

WCD MB014Y WCDDATE 87363

DATE _____

RCC MANPSC

SHEET 15 OF 23

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
201	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
201	MANPSC	PROC	.	.	P	.	9A014	1	.	1.0		.	.	.	
201	MANPSC	PROC	.	.	P	.	9A012	1	.	1.0		.	.	.	
202	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
202	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
202	MANPSC	PROC	.	.	P	.	9A014	1	.	2.0		.	.	.	
202	MANPSC	PROC	.	.	P	.	9A012	1	.	2.0		.	.	.	
203	MANPSC	INS	0.99	1.00	T	.		.	.	.		.	.	.	
203	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
203	MANPSC	INS	.	.	P	.	9A014	1	.	0.3		.	.	.	
203	MANPSC	INS	.	.	P	.	9A012	1	.	0.3		.	.	.	
204	MANPSC	INS	0.98	1.00	T	.		.	.	.		.	.	.	
204	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

SAS

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 16 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
204	MANPSC	INS	.	.	P	.	9A014	1	.	0.1		.	.	.	
205	MANPSC	INS	0.99	1.00	T	.		.	.	.		.	.	.	
205	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
205	MANPSC	INS	.	.	P	.	9A014	1	.	0.1		.	.	.	
205	MANPSC	INS	.	.	P	.	9A012	1	.	0.1		.	.	.	
206	MANPSC	INS	0.99	1.00	T	.		.	.	.		.	.	.	
206	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
206	MANPSC	INS	.	.	P	.	9A014	1	.	0.1		.	.	.	
206	MANPSC	INS	.	.	P	.	9A012	1	.	0.1		.	.	.	
207	MANPSC	INS	0.98	1.00	T	.		.	.	.		.	.	.	
207	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
207	MANPSC	INS	.	.	P	.	9A014	1	.	0.1		.	.	.	

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OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 14 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
207	MANPSC	INS	.	.	P	.	9A012	1	.	0.1		.	.	.	
208	MANPSC	INS	1.00	1.00	T	.		.	.	.		.	.	.	
208	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
208	MANPSC	INS	.	.	P	.	9A014	1	.	0.1		.	.	.	
208	MANPSC	INS	.	.	P	.	9A012	1	.	0.1		.	.	.	
209	MANPSC	INS	1.00	1.00	T	.		.	.	.		.	.	.	
209	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
209	MANPSC	INS	.	.	P	.	9A014	1	.	0.1		.	.	.	
209	MANPSC	INS	.	.	P	.	9A012	1	.	0.1		.	.	.	
210	MANPSC	ASSY	1.00	1.00	T	.		.	.	.		.	.	.	
210	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
210	MANPSC	ASSY	.	.	P	.	9A014	1	.	0.3		.	.	.	
210	MANPSC	ASSY	.	.	P	.	9A012	1	.	0.3		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 18 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
215	MANPSC	ASSY	1.00	1.00	T	.		.	.	.		.	.	.	
215	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
215	MANPSC	ASSY	.	.	P	.	9A014	1	.	2.0		.	.	.	
215	MANPSC	ASSY	.	.	P	.	9A012	1	.	2.0		.	.	.	
220	MANPSC	INS	0.98	1.00	T	.		.	.	.		.	.	.	
220	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
220	MANPSC	INS	.	.	P	.	9A014	1	.	2.0		.	.	.	
220	MANPSC	INS	.	.	P	.	9A012	1	.	2.0		.	.	.	
250	MANPSC	PROC	0.96	1.00	T	.		.	.	.		.	.	.	
250	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
250	MANPSC	PROC	.	.	P	.	9A014	1	.	8.0		.	.	.	
250	MANPSC	PROC	.	.	P	.	9A012	1	.	8.0		.	.	.	

OPERATION PROFILE SAS

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 19 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
260	MANPSC	MOVE	0.99	1.00	T	.		.	.	.		.	.	.	
260	MANPSC	MOVE	.	.	S	.		.	.	.		.	.	.	
260	MANPSC	MOVE	.	.	P	.	9A014	1	.	0.5		.	.	.	
270	MANPSC	MOVE	0.97	1.00	T	.		.	.	.		.	.	.	
270	MANPSC	MOVE	.	.	S	.		.	.	.		.	.	.	
270	MANPSC	MOVE	.	.	P	.	9A014	1	.	0.5		.	.	.	
280	MANPSC	REP	0.96	1.00	T	.		.	.	.		.	.	.	
280	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
280	MANPSC	REP	.	.	P	.	9A014	1	.	8.0		.	.	.	
280	MANPSC	REP	.	.	P	.	9A012	1	.	8.0		.	.	.	
290	MANPSC	REP	0.97	1.00	T	.		.	.	.		.	.	.	
290	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
290	MANPSC	REP	.	.	P	.	9A014	1	.	4.0		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 20 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
290	MANPSC	REP	.	.	P	.	9A012	1	.	4.0		.	.	.	
300	MANPSC	REP	1.00	1.00	T	.		.	.	.		.	.	.	
300	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
300	MANPSC	REP	.	.	P	.	9A014	1	.	2.0		.	.	.	
300	MANPSC	REP	.	.	P	.	9A012	1	.	2.0		.	.	.	
310	MANPSC	REP	1.00	1.00	T	.		.	.	.		.	.	.	
310	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
310	MANPSC	REP	.	.	P	.	9A014	1	.	2.0		.	.	.	
310	MANPSC	REP	.	.	P	.	9A012	1	.	2.0		.	.	.	
310	MANPSC	INS	.	.	P	.	9A014	1	.	0.3		.	.	.	
320	MANPSC	INS/	0.97	1.00	T	.		.	.	.		.	.	.	
320	MANPSC	INS/	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 21 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
320	MANPSC	INS/	.	.	P	.	9A012	1	.	4.0		.	.	.	
330	MANPSC	REP	0.99	1.00	T	.		.	.	.		.	.	.	
330	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
330	MANPSC	REP	.	.	P	.	9A012	1	.	16.0		.	.	.	
335	MANPSC	PROC	0.99	1.00	T	.		.	.	.		.	.	.	
335	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
335	MANPSC	PROC	.	.	P	.	9A012	1	.	3.0		.	.	.	
340	MANPSC	REP	0.96	1.00	T	.		.	.	.		.	.	.	
340	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
340	MANPSC	REP	.	.	P	.	9A014	1	.	4.0		.	.	.	
340	MANPSC	REP	.	.	P	.	9A012	1	.	4.0		.	.	.	
345	MANPSC		0.96	100	T	1.0	92W605	1	.	.50		.	.	.	
345	MANPSC		.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 22 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
345	MANPSC		.	.	P	30.0		.	.	.		.	.	.	
350	MANPSC		1.00	1.00	T	.		.	.	.		.	.	.	
350	MANPSC		.	.	S	.		.	.	.		.	.	.	
350	MANPSC		.	.	P	28.0		.	.	.		.	.	.	
360	MANPSC		0.98	1.00	T	.		.	.	.		.	.	.	
360	MANPSC		.	.	S	.		.	.	.		.	.	.	
360	MANPSC		.	.	P	30.0		.	.	.		.	.	.	
370	MANPSC		0.81	1.00	T	.		.	.	.		.	.	.	
370	MANPSC		.	.	S	.		.	.	.		.	.	.	
370	MANPSC		.	.	P	50.0		.	.	.		.	.	.	
380	MANPSC		0.96	1.00	T	1.0	9U-G05	1	.	.50		.	.	.	
380	MANPSC		.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME _____ ALC WR DATE _____ RCC MANPSC SHEET 23 OF 23

ITEM CD PCN 06692A WCD MB014Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
380	MANPSC		.	.	P	5.0		.	.	.		.	.	.	
390	MANPSC	ASSY	0.93	1.00	T	.		.	.	.		.	.	.	
390	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
390	MANPSC	ASSY	.	.	P	.	9A012	1	.	0.3		.	.	.	
400	MANPSC	ASSY	0.93	1.00	T	.		.	.	.		.	.	.	
400	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
400	MANPSC	ASSY	.	.	P	.	9A012	1	.	0.5		.	.	.	
420	MANPSC	INS	0.83	1.00	T	.		.	.	.		.	.	.	
420	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
420	MANPSC	INS	.	1.00	P	.	9A014	1	.	0.1		.	.	.	
410	MANPSC	INS	.	1.00	P	.	9A014	1	.	.50					

SAS

OPERATION PROFILE

8:23 WEDNESDAY, APRIL 5, 1989 1

NAME EM Cudney ALC WR DATE 5-11-89 RCC MANPSC SHEET 1 OF 1

ITEM CD PCN 06692A WCD MBA14Y WCDDATE 88141

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPDA		1.00	1.00	T	1.0	92G-05	1	.	.50		.	.	.	
10	MANPDA		.	.	S	.		.	.	.		.	.	.	
10	MANPDA		.	.	P	10.0		.	.	.		.	.	.	
20	MANPDB		.	1.00	T	1.0	92G-05	1	.	.50		.	.	.	
20	MANPDB		.	.	S	.		.	.	.		.	.	.	
20	MANPDB		.	.	P	10.0		.	.	.		.	.	.	
30	MANPDB		1.00	1.00	T	.		.	.	.		.	.	.	
30	MANPDB		.	.	S	.		.	.	.		.	.	.	
30	MANPDB		.	.	P	20.0		.	.	.		.	.	.	
40	MANPDB		.	1.00	T	.		.	.	.		.	.	.	
40	MANPDB		.	.	S	.		.	.	.		.	.	.	
40	MANPDB		.	.	P	20.0		.	.	.		.	.	.	

OPERATION PROFILE

NAME GM Gutshey ALC WR DATE 5-10-89 RCC MANPSC SHEET 1 OF 1

ITEM CD PCN 08892A WCD MBD14Y WCDDATE 87363

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPDA		.	1.00	T	1.0	9WG05	1	.	.50		.	.	.	
10	MANPDA		.	.	S	.		.	.	.		.	.	.	
10	MANPDA		.	.	P	20.0		.	.	.		.	.	.	
20	MANPDA		.	1.00	T	1.0	9WG05	1	.	.50		.	.	.	
20	MANPDA		.	.	S	.		.	.	.		.	.	.	
20	MANPDA		.	.	P	2.0		.	.	.		.	.	.	

SAS
ASSEMBLY/DISASSEMBLY PROFILE

NAME [illegible] ALC WR DATE 4-22-89 RCC MANPSc SHEET 1 OF 1

ITEM CODE	WCD	WCD DT	DSOP	ASOP	REMOV ITEM CODE	WCD	WCD DT	INSTALL SAME	NOTES
PCN 06991A	MB014Y	87363	130	194	PCN 3P21806-103	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	193	PCN 3P21812-109	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	191	PCN 3P21807-103	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	193	PCN 3P21678-171	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	188	PCN 3P21678-171	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	188	PCN 3P21679-177	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	188	PCN 3P21679-185	.	.	[illegible]	
PCN 06991A	MB014Y	87363	130	193	PCN 3P21681-143	.	.	[illegible]	
PCN 06992A	MB014Y	87363	330	330	PCN 3P21652-104	.	.	[illegible]	
PCN 06992A	MB014Y	87363	75	380	PCN 3P21644-102	.	.	[illegible]	
PCN 06992A	MB014Y	87363	85	380	PCN S1352A	.	.	[illegible]	
PCN 50164A		88147	40	80	PCN 344758-3R	.	.	[illegible]	
PCN 50164A		88147	40	80	PCN 344869	.	.	[illegible]	
PCN 50164A		88147	40	80	PCN 388971-3	.	.	[illegible]	

OPERATION PROFILE

NAME C.M. Guadey ALC MM-ALC DATE 4-18-89 RCC TRANSCO SHEET 1 OF 1

PCN / NSN / PIN # 501644 WCD MB0248 WCD DATE 88147

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/ LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
0000	MANDSC	REC.	1.00	TRANSIT		–			–						C. Patterson Alternate # 926-4107
				SETUP		–			–						
				PROCESS		1.0	9WG05	1	0.1						Larry Bryson Alternate
010.	MANDSC	REV	1.00	TRANSIT		–			–						T.O. 1C-130A-3 + Applicable Drawings
				SETUP		–			–						
				PROCESS		1.0	9A014	1	1.0						
WCD - Operations listed from 010 thru 160 Reviewed Data make-up computer copy.				TRANSIT											
				SETUP											
				PROCESS											
		Carson Guidey 4-18-89		TRANSIT											
				SETUP											
				PROCESS											
9999	MANDSC	SELL	1.00	TRANSIT		–				–					Rep Muller Supervisor # 926-4107
				SETUP		–				–					
				PROCESS		1.0	4A014	1		2.0					Larry Bryson # 926-3615

LSCO 920

OPERATION PROFILE SAS

NAME GM Gutilley ALC WR DATE 11-18-89 RCC MANPSC SHEET 1 OF 4

ITEM CD PCN 50164A WCD MB024D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPDD		0.94	1.00	T	1.0	9WG05	1	.	0.50		.	.	.	
10	MANPDD		.	.	S	.		.	.	.		.	.	.	
10	MANPDD		.	1.00	P	24.0		.	.	.		.	.	.	
20	MANPDD		0.94	1.0	T	.		.	.	.		.	.	.	
20	MANPDD		.	.	S	.		.	.	.		.	.	.	
20	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
30	MANPDD		0.94	1.0	T	.		.	.	.		.	.	.	
30	MANPDD		.	.	S	.		.	.	.		.	.	.	
30	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
40	MANPSC	DIS	1.00	.	T	0.50	9A014	1	.	0.50		.	.	.	
40	MANPSC	DIS	.	.	S	.		.	.	.		.	.	.	
40	MANPSC	DIS	.	1.00	P	.	9A014	1	.	4.0		.	.	.	
50	MANPDD		0.96	1.00	T	0.5	9A014	1	.	0.5		.	.	.	

OPERATION PROFILE

NAME GMGwiQuy ALC WR DATE 11-18-89 RCC MANPSC SHEET 2 OF 4

ITEM CD PCN 50164A WCD MB024D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
50	MANPDD		.	.	S	.		.	.	.		.	.	.	
50	MANPDD		.	1.00	P	24.0		.	.	.		.	.	.	
60	MANPDA		1.00	0.1	T	0.5	9HC14	.1	.	0.5		.	.	.	
60	MANPDA		.	.	S	.		.	.	.		.	.	.	
60	MANPDA		.	.	P	24.0		.	.	.		.	.	.	
70	MANPDB		1.00	0.1	T	1.0	9HC14	.1	.	1.0		.	.	.	
70	MANPDB		.	.	S	.		.	.	.		.	.	.	
70	MANPDB		.	.	P	24.0		.	.	.		.	.	.	
80	MANPSC	REP	1.00	.	T	.		.	.	.		.	.	.	
80	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
80	MANPSC	REP	.	1.00	P	50.0	9A014	1	.	50.0 ✓		.	.	.	
~~90~~	~~MANPDB~~		~~1.00~~	~~.~~	~~T~~	~~DELETE~~		.	.	.		.	.	.	

OPERATION PROFILE SAS

NAME GNIGwzdny ALC WR DATE 4-18-89 RCC MANPSC SHEET 3 OF 4

ITEM CD PCN 50164A WCD MB024D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
~~80~~	~~MANPDB~~		.	.	~~S~~			.	.	.		.	.	.	
~~90~~	~~MANPDB~~		.	.	~~P~~	Delete		.	.	.		.	.	.	
100	MANPSC	REP	1.00	.	T	.		.	.	.		.	.	.	
100	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
100	MANPSC	REP	.	1.00	P	10.0	9A014	1	.	10.0 ✓		.	.	.	
110	MANPSC	INS	1.00	.	T	.		.	.	.		.	.	.	
110	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
110	MANPSC	INS	.	1.00	P	0.5	9A014	1	.	0.5 ✓		.	.	.	
120	MANPDB		0.87	1.00	T	1.0	9A014	1	.	1.0		.	.	.	
120	MANPDB		.	.	S			.	.	.		.	.	.	
120	MANPDB		.	.	P	32.0		.	.	.		.	.	.	
130	MANPDC		1.00	.	T	.		.	.	.		.	.	.	
130	MANPDC		.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME Gill Buckley ALC WR DATE 11-18-89 RCC MANPSC SHEET 11 OF 11

ITEM CD PCN 50164A WCD MB024D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
130	MANPDC		.	.	P	32.0		.	.	.		.	.	.	
140	MANPDC		0.74	1.00	T	.		.	.	.		.	.	.	
140	MANPDC		.	.	S	.		.	.	.		.	.	.	
140	MANPDC		.	.	P	48.0		.	.	.		.	.	.	
150	MANPSC	PROC	0.95	1.00	T	0.5	9A014	1	.	0.5		.	.	.	
150	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
150	MANPSC	PROC	.	.	P	0.5	48127	1	.	0.2 ✓		.	.	.	
160	MANPSC	INS	0.95	.	T	.		.	.	.		.	.	.	
160	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
160	MANPSC	INS	.	1.00	P	0.5	9A014	1	.	0.5 ✓		.	.	.	

SAS
ASSEMBLY/DISASSEMBLY PROFILE

NAME [illegible] ALC WR DATE 11-18-89 RCC MANPSc SHEET 1 OF 2

ITEM CODE	WCD	WCD DT	DSOP	ASOP	REMOV ITEM CODE	WCD	WCD DT	INSTALL SAME	NOTES
PCN 06991A	MB014Y	87363	130	194	PCN 3P21806-103	.	.		
PCN 06991A	MB014Y	87363	130	193	PCN 3P21812-109	.	.		
PCN 06991A	MB014Y	87363	130	191	PCN 3P21807-103	.	.		
PCN 06991A	MB014Y	87363	130	193	PCN 3P21678-171	.	.		
PCN 06991A	MB014Y	87363	130	188	PCN 3P21678-171	.	.		
PCN 06991A	MB014Y	87363	130	188	PCN 3P21679-177	.	.		
PCN 06991A	MB014Y	87363	130	188	PCN 3P21679-185	.	.		
PCN 06991A	MB014Y	87363	130	193	PCN 3P21681-143	.	.		
PCN 06991A	MB014Y	87363	330	330	PCN 3P21652-104	.	.		
PCN 06991A	MB014Y	87363	75	380	PCN 3P21644-102	.	.		
PCN 06991A	MB014Y	87363	85	380	PCN S1352A	.	.		
PCN 50164A		88147	40	80	PCN 344758-3R	.	→	YES	
PCN 50164A		88147	40	80	PCN 344869	.	→	YES	
PCN 50164A		88147	40	80	PCN 388971-3	.	→	YES	

SAS
ASSEMBLY/DISASSEMBLY PROFILE

NAME Gill Gurtney

DATE 11-18-89

SHEET 2 OF 2

ITEM CODE	WCD	WCD DT	ALC WR DSOP	ASOP	REMOV ITEM CODE	RCC MANPSC WCD	WCD DT	INSTALL SAME	NOTES
PCN 50164A		88147	40	80	PCN 351576-01				
PCN 50454A		88147	25	60	PCN 345208-3L			YES	
PCN 50454A		88147	25	100	PCN 342781-501				
PCN 50454A		88147	25	100	PCN 354760				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-326				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-327				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-335				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-336				
PCN 52464A		88146	10	187	PCN 353972-1				

OPERATION PROFILE

NAME C M Cundiff ALC WR-ALC DATE 4-25-84 RCC MMWPSC SHEET 1 OF 1

PCN
NSN
P/N 51H02A

WCD MB0194 WCD DATE 88154

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/ LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
	M			TRANSIT		–				–					MR. T. McNEIL
	A														LABORATORY
	N			SETUP		–				–					#926-4107
	O														
	S			PROCESS											MR. J. R. Jackson
0000	C	Rec	1.00			1.0	9W305	1		0.1					#Phone 237
	M			TRANSIT		–				–					
	A														T.O. 1C-
	N			SETUP		–				–					141B-3 +
010	O	Rev	1.00												
	S			PROCESS											Applicable
	C					1.0	9A012	1		1.0					Drawings
WCR - OPERATIONS				TRANSIT											
LISTED FROM 010 THRU															
140 REVISED PER				SETUP											
MARK-UP COMPUTER															
COPY				PROCESS											
				TRANSIT											
		Convert	Cundiff												
			4-25-84	SETUP											
				PROCESS											
	M			TRANSIT		–				–					MR. Ray Wallace
	A														(Supervisor)
	N			SETUP		–				–					#926-4107
	O														
	S			PROCESS											MR. J. R. Jackson
9999	C	Sell	1.00			1.0	9A012	1		2.0					#926-3615

OPERATION PROFILE

NAME GMGuardy ALC WR DATE 11-25-89 RCC MANPSC SHEET 1 OF 4

ITEM CD PCN 51402A WCD MB019Y WCDDATE 88154

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPDD	CLN	1.00	1.00	T	.	9WG05	1	.	.50		.	.	.	
10	MANPDD	CLN	.	.	S	0.0		.	.	.		.	.	.	
10	MANPDD	CLN	.	.	P	24.0		.	.	.		.	.	.	
20	MANPDD	INS	0.89	1.00	T	0.0		.	.	.		.	.	.	
20	MANPDD	INS	.	.	S	0.0		.	.	.		.	.	.	
20	MANPDD	INS	.	.	P	24.0		.	.	.		.	.	.	
30	MANPSC	DIS	1.00	1.00	T	1.0	9WG05	1	.	.50		.	.	.	
30	MANPSC	DIS	.	.	S	0.0		.	.	.		.	.	.	
30	MANPSC	DIS	.	.	P	.	9A012	1 ✓	.	1.0 ✓		.	.	.	
75	MANPSC	REP	1.00	1.00	T	0.0		.	.	.		.	.	.	
75	MANPSC	REP	.	.	S	0.0		.	.	.		.	.	.	
75	MANPSC	REP	.	.	P	.	9A012	1 ✓	.	30.0 ✓		.	.	.	
80	MANPSC	NDI	1.00	1.00	T	0.0		.	.	.		.	.	.	

OPERATION PROFILE

NAME GMGwodny ALC WR DATE 4-25-89 RCC MANPSC SHEET 2 OF 11

ITEM CD PCN 51402A WCD MB019Y WCDDATE 88154

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
80	MANPSC	NDI	.	.	S	0.0		.	.	.		.	.	.	
80	MANPSC	NDI	.	.	P	.	9A012	1 ✓	.	1.0 ✓		.	.	.	
90	MANPSC	NDI	1.00	1.00	T	0.0		.	.	.		.	.	.	
90	MANPSC	NDI	.	.	S	0.0		.	.	.		.	.	.	
90	MANPSC	NDI	.	.	P	.	9A012	1 ✓	.	0.1 ✓		.	.	.	
100	MANPSC	REP	1.00	1.00	T	0.0		.	.	.		.	.	.	
100	MANPSC	REP	.	.	S	0.0		.	.	.		.	.	.	
100	MANPSC	REP	.	.	P	.	9A012	1 ✓	.	0.8 ✓		.	.	.	
105	MANPDD		1.00	1.00	T	1.0	9W305	1	.	.50		.	.	.	
105	MANPDD		.	.	S	0.0		.	.	.		.	.	.	
105	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
110	MANPDC		1.00	1.00	T	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME GMGurdey ALC WR DATE 4-25-89 RCC MANPSC SHEET 3 OF 4

ITEM CD PCN 51402A WCD MB019Y WCDDATE 88154

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
110	MANPDC		.	.	S	0.0		.	.	.		.	.	.	
110	MANPDC		.	.	P	24.0		.	.	.		.	.	.	
115	MANPDC		~~0.00~~ 1.00	1.00	T	0.0		.	.	.		.	.	.	
115	MANPDC		.	.	S	0.0		.	.	.		.	.	.	
115	MANPDC		.	.	P	118.0		.	.	.		.	.	.	
120	MANPSC	PROC	1.00	1.00	T	1.0	9WG05	1	.	.50		.	.	.	
120	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
120	MANPSC	PROC	.	.	P	.	9A012	1	.	0.3		.	.	.	
130	MANPSC	NDI	1.00	1.00	T	0.0		.	.	.		.	.	.	
130	MANPSC	NDI	.	.	S	0.0		.	.	.		.	.	.	
130	MANPSC	NDI	.	.	P	.	9A012	1 ✓	.	0.5 ✓		.	.	.	
140	MANPSC	ASSY	1.00	1.00	T	0.0		.	.	.		.	.	.	
140	MANPSC	ASSY	.	.	S	0.0		.	.	.		.	.	.	

OPERATION PROFILE

NAME GMGuzelay ALC WR DATE 11-21-89 RCC MANPSC SHEET 11 OF 1

ITEM CD PCN 51402A WCD MB019Y WCDDATE 88154

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
140	MANPSC	ASSY	.	.	P	.	9A012	1	.	0.1		.	.	.	

SAS
ASSEMBLY/DISASSEMBLY PROFILE

NAME [illegible] ALC WR DATE [illegible] RCC MANPSC SHEET 2 OF 2

ITEM CODE	WCD	WCD DT	DSOP	ASOP	REMOV ITEM CODE	WCD	WCD DT	INSTALL SAME	NOTES
PCN 50164A		88147	40	80	PCN 351576-01	.	.		
PCN 50454A		88147	25	60	PCN 345208-3L	.	.		
PCN 50454A		88147	25	100	PCN 342781-501	.	.		
PCN 50454A		88147	25	100	PCN 354760	.	.		
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-326	.	.	YES	
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-327	.	.	YES	
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-335	.	.	YES	
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-336	.	.	YES	
PCN 52464A		88146	10	187	PCN 353972-1	.	.		

DISASSEMBLY/ASSEMBLY PROFILE

AME GM Guardian ALC WR-ALC DATE 4-25-89 RCC MAWRSC SHEET 1 OF 1

TOP ASSEMBLY			REMOVAL OPERATION NUMBER	INSTALLATION OPERATION NUMBER	SUBASSEMBLY			BAME REMOVED ITEM INSTALLED INTO ASSY. T/N
ITEM NUMBER	WCD	WCD DATE			ITEM NUMBER	CHKD WCD	CHKD WCD DATE	
3P22002-326	MB014J	88154	30	75	PCN NSN P/N			
3P22002-327	MB014J	88154	30	75	PCN NSN P/N			
3P22002-335	MB014J	88154	30	75	PCN NSN P/N			
3P22002-336	MB014J	88154	30	75	PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			

LSC-20095A

OPERATION PROFILE

NAME: BM Burdey ALC: WA-ALC DATE: 5-2-89 RCC: MANDAG SHEET 1 OF 1

PCN/NSN/PN: #50464A WCD: MB053 WCD DATE: 88147

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
0000	MANDG C	Rec	1.00	TRANSIT		–				–					Thomas O'Neil
				SETUP		–				–					LALC Manager #926-4107
				PROCESS		1.0	9WG05	1		0.1					Larry Bychowski & Supervisor
010	MANDG C	Rev	1.00	TRANSIT		–				–					T.O. 1C-130A-3
				SETUP		–				–					Applicable Drawings
				PROCESS		1.0	9RC12	1		0.1					
WCD - Operations listed from 010 thru 130 Revised Dwg marked up computer copy.				TRANSIT											
				SETUP											
				PROCESS											
		Review Burdey 5-2-89		TRANSIT											
				SETUP											
				PROCESS											
4449	MANDG C	Sell	1.00	TRANSIT		–				–					Rep Walker & Supervisor #926-4107
				SETUP		–				–					
				PROCESS		1.0	9R012	1		2.0					Larry Bychowski #926-3615

OPERATION PROFILE SAS

NAME GMGurdley ALC WR DATE 6-9-89 RCC MANPSC SHEET 1 OF 8

ITEM CD PCN 50454A WCD MB053D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPDD	CLN	0.90	1.00	T	.	9WG05	1	.	.50		.	.	.	Thomas O'Neill Ext. (6) 4107
10	MANPDD	CLN	.	.	S	0.0		.	.	.		.	.	.	
10	MANPDD	CLN	.	.	P	24.0		.	.	.		.	.	.	
20	MANPDD		0.90	1.00	T	.		.	.	.		.	.	.	
20	MANPDD		.	.	S	.		.	.	.		.	.	.	
20	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
25	MANPSC	PROC	1.00	1.00	T	1.00	9WG05	1	.	.50		.	.	.	
25	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
25	MANPSC	PROC	.	.	P	.	9A012	2	.	12.0		.	.	.	
28	MANPDD		0.93	1.00	T	1.00	9A012	1	.	.50		.	.	.	
28	MANPDD		.	.	S	.		.	.	.		.	.	.	
28	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
30	MANPSC	INS	0.90	1.00	T	1.00	9WG05	1	.	.50		.	.	.	

OPERATION PROFILE

NAME CM Guardey ALC WR DATE 5-9-89 RCC MANPSC SHEET 2 OF 8

ITEM CD PCN 50454A WCD MB053D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
30	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
30	MANPSC	INS	.	.	P	.	9A012	2	.	4.0	48010	1	.	4.0	
40	MANPSC	REP	~~0.90~~	1.00	T	.		.	.	.		.	.	.	
40	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
40	MANPSC	REP	.	.	P	.	9A014	1	.	40.0	48010	1	.	40.0	
40	MANPSC	REP	.	.	P	.	9A012	1	.	40.0	48010	1	.	40.0	
60	MANPSC	REP	~~0.90~~	1.00	T	.		.	.	.		.	.	.	
60	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
60	MANPSC	REP	.	.	P	.	9A012	2	.	8.0	48010	1	.	8.0	
70	MANPSC	REP	~~0.90~~	1.00	T	.		.	.	.		.	.	.	
70	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
70	MANPSC	REP	.	.	P	.	9A014	1	.	8.0	48010	1	.	8.0	

OPERATION PROFILE

NAME BM Guardney ALC WR DATE 5-9-89 RCC MANPSC SHEET 3 OF 8

ITEM CD PCN 50454A WCD MB053D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
70	MANPSC	REP	.	.	P	.	9A012	1	.	8.0	48010	1	.	8.0	
80	MANPSC	INS	~~0.80~~	1.00	T	1.00	9A012	1	.	1.00		.	.	.	
80	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
80	MANPSC	INS	.	.	P	.	9A012	2	.	1.0	48010	1	.	1.0	
90	MANPSC	REP	~~0.83~~	1.00	T	.		.	.	.		.	.	.	
90	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
90	MANPSC	REP	.	.	P	.	9A014	1	.	32.0		.	.	.	
90	MANPSC	REP	.	.	P	.	9A012	1	.	32.0		.	.	.	
95	MANPSC	REP	~~0.86~~	1.00	T	.		.	.	.		.	.	.	
95	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
95	MANPSC	REP	.	.	P	.	9A012	2	.	24.0		.	.	.	
100	MANPSC	REP	~~0.83~~	1.00	T	.		.	.	.		.	.	.	
100	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME CM Bradley ALC WR DATE 5-9-89 RCC MANPSC SHEET 4 OF 8

ITEM CD PCN 50454A WCD MB053D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
100	MANPSC	REP	.	.	P	.	9A012	2	.	2.0		.	.	.	
105	MANPDD		~~0.90~~	1.00	T	1.00	9WG05	1	.	.50		.	.	.	
105	MANPDD		.	.	S	.		.	.	.		.	.	.	
105	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
110	MANPDC		~~0.90~~	1.00	T	.		.	.	.		.	.	.	
110	MANPDC		.	.	S	.		.	.	.		.	.	.	
110	MANPDC		.	.	P	24.0		.	.	.		.	.	.	
115	MANPDC		~~0.53~~	1.00	T	.		.	.	.		.	.	.	
115	MANPDC		.	.	S	.		.	.	.		.	.	.	
115	MANPDC		.	.	P	48.0		.	.	.		.	.	.	
116	MANPSC	PROC	0.90	1.00	T	1.00	9WG05	1	.	.50		.	.	.	
116	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	

OPERATION PROFILE

NAME C M Gwaltney ALC WR DATE 5-9-89 RCC MANPSC SHEET 5 OF 8

ITEM CD PCN 50454A WCD MB053D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
116	MANPSC	PROC	.	.	P	.	~~48127~~ 9AC12	1	.	5.0		.	.	.	
120	MANPSC	INS	0.90	1.00	T	.		.	.	.		.	.	.	
120	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
120	MANPSC	INS	.	.	P	.	~~48127~~ 9AC12	1	.	5.0		.	.	.	
130	MANPSC	INS	~~0.90~~	1.00	T	.		.	.	.		.	.	.	
130	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
130	MANPSC	INS	.	.	P	.	~~48127~~ 9A014	1	.	0.3		.	.	.	

OPERATION #120 - [illegible]
[illegible] PLACE PISTON
OPERATION #100 - [illegible]
PAINT SHOP. CG

OPERATION PROFILE

NAME GM Gwilliey ALC WR DATE 5-2-89 RCC MANPSC SHEET 6 OF 8

ITEM CD PCN 50454A WCD MBA53D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPSC	DIS	1.00	1.00	T	.		.	.	.		.	.	.	
10	MANPSC	DIS	.	.	S	.		.	.	.		.	.	.	
10	MANPSC	DIS	.	.	P	2.0	9A012	2	.	0.5		.	.	.	
20	MANPSC	PROC	1.00	1.00	T	.		.	.	.		.	.	.	
20	MANPSC	PROC	.	.	S	.		.	.	.		.	.	.	
20	MANPSC	PROC	.	.	P	2.0	9A012	2	.	0.5		.	.	.	
30	MANPDA		1.00	1.00	T	1.00	9W/G05	1	.	.50		.	.	.	
30	MANPDA		.	.	S	.		.	.	.		.	.	.	
30	MANPDA		.	.	P	20.0		.	.	.		.	.	.	
40	MANPDA		~~0.50~~	1.00	T	.		.	.	.		.	.	.	
40	MANPDA		.	.	S	.		.	.	.		.	.	.	
40	MANPDA		.	.	P	8.0		.	.	.		.	.	.	
50	MANPDD		.	1.00	T	1	9W/G05	1	.	.50		.	.	.	

SAS

OPERATION PROFILE

NAME B M Quadley ALC WR DATE 5-9-89 RCC MANPSC SHEET 7 OF 8

ITEM CD PCN 50454A WCD MBA53D WCDDATE 88147

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
50	MANPDD		.	.	S	.		.	.	.		.	.	.	
50	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
60	MANPDC		1.00	1.00	T	.		.	.	.		.	.	.	
60	MANPDC		.	.	S	.		.	.	.		.	.	.	
60	MANPDC		.	.	P	48.0		.	.	.		.	.	.	
70	MANPSC	ASSY	1.00	1.00	T	1.00	9UB05 1	.		.50		.	.	.	
70	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
70	MANPSC	ASSY	.	.	P	.	9A012	2	.	3.0		.	.	.	

OPERATION PROFILE

NAME Gm Gwidey ALC WR DATE 5-9-89 RCC MANPSC SHEET 8 OF 8

ITEM CD PCN 50454A WCD MBB53D WCDDATE 88034

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
10	MANPDD		.	1.00	T	.50	9A012	2	.	.50		.	.	.	
10	MANPDD		.	.	S	.		.	.	.		.	.	.	
10	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
20	MANPDC		.	1.00	T	.		.	.	.		.	.	.	
20	MANPDC		.	.	S	.		.	.	.		.	.	.	
20	MANPDC		.	.	P	20.0		.	.	.		.	.	.	
30	MANPDC		.	1.00	T	.		.	.	.		.	.	.	
30	MANPDC		.	.	S	.		.	.	.		.	.	.	
30	MANPDC		.	.	P	20.0		.	.	.		.	.	.	
40	MANPDC		.	1.00	T	1.00	9A012	2	.	.50		.	.	.	
40	MANPDC		.	.	S	.		.	.	.		.	.	.	
40	MANPDC		.	.	P	20.0		.	.	.		.	.	.	

SAS
ASSEMBLY/DISASSEMBLY PROFILE

8:21 WEDNESDAY, APRIL 5, 1989

NAME [illegible]

DATE _____

SHEET ___ OF ___

ITEM CODE	WCD	WCD DT	ALC WR DSOP	ASOP	REMOV ITEM CODE	RCC MANPSC WCD	WCD DT	INSTALL SAME	NOTES
PCN 50164A		88147	40	80	PCN 351576-01				
PCN 50454A	MBD53D	88147	25	60	PCN 345208-3L	—	—	NO	6/10
PCN 50454A	MBD53D	88147	25	100	PCN 342781-501	MBA53D	88034	YES	
PCN 50454A	MBD53D	88147	25	100	PCN 354760	MBB53J	—	NO	
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-326				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-327				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-335				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-336				
PCN 52464A		88146	10	187	PCN 353972-1				

OPERATION PROFILE

NAME [illegible] ALC [illegible] DATE 4-22-89 RCC [illegible] SHEET 1 OF 1

PCN / NSN / PN #502664 WCD MB021Q WCD DATE 8 8 1986

OPERATION NUMBER	RCC	OPERATION DESCRIPTION	MANDATORY OCCURRENCE FACTOR	OPERATION TYPE	MANDATORY FLOW HOURS %	MANDATORY FLOW HOURS HRS.	MANPOWER SKILL CODE/ LEVEL	MANPOWER QTY.	MANPOWER TIME REQUIRED %	MANPOWER TIME REQUIRED HRS.	EQUIPMENT EQUIPMENT CODE	EQUIPMENT QTY.	EQUIPMENT TIME REQUIRED %	EQUIPMENT TIME REQUIRED HRS.	DATA SOURCE COMMENTS
	M			TRANSIT		-				-					George Stoney
	A														Lt. Lawrence
	N			SETUP		-				-					4926-4410
	P														
	S			PROCESS											Mr. Larry Bynum
CCOC	C	BSC	1.00			1.0	9WC06	1		0.1					& Blowers
	M			TRANSIT		-				-					T.O. 1C-
	A														
	N			SETUP		-				-					130A-3
CIC	P	BSV	1.00												
	S			PROCESS											Applicable
	C					1.0	9AC14	1		1.0					Drawing
NOTE - Operations				TRANSIT											
Listed Below CIC Thru															
200 Represent Data				SETUP											
Manufacture - up Computers															
Corp.				PROCESS											
				TRANSIT											
		Convert Buddy													
		4-22-89		SETUP											
				PROCESS											
	M			TRANSIT		-				-					Mahlon Smith
	A														
	N			SETUP		-				-					& Superintendent
	P														4926-4410
	S			PROCESS											Larry Bennett
9999	C	Sub C	1.00			1.0	9AC14	1		2.0					4926-3615

NOTE ADD OPERATION 32 SAME AS 10 & THEN DELETE OP. 10

OPERATION PROFILE SAS

8:23 WEDNESDAY, APRIL 5, 1989 30

NAME [illegible]

ALC WR DATE [illegible] RCC MANPSC SHEET 1 OF 1

ITEM CD PCN 50266A WCD MB021D WCDDATE 88146

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
32 ~~10~~	MANPSC	DIS	1.00	1.00	T	1.00	9A014	1		.50					MR. JAMES E. HALL
32 ~~10~~	MANPSC	DIS		0.0	S	0.0									
32 ~~10~~	MANPSC	DIS		0.0	P		13304	1		1.5					
32 ~~10~~	MANPSC	DIS		0.0	P		9A014	1		1.5					
20	MANPDD		1.00	1.00	T	1.0	9IVG05	1		.50					
20	MANPDD			0.0	S	0.0									
20	MANPDD			0.0	P	24.0									
30	MANPDD		1.00	1.00	T	0.0									
30	MANPDD			0.0	S	0.0									
30	MANPDD			0.0	P	24.0									
35	MANPSC	INS	1.00	1.00	T	0.0									
35	MANPSC	INS		0.0	S	0.0									
35	MANPSC	INS		0.0	P		13304	1		20.0					

OPERATION PROFILE SAS

NAME GMGutIDuy

ITEM CD PCN 50266A

ALC WR

WCD MB021D WCDDATE 88146

DATE 11-22-89

RCC MANPSC

SHEET 2 OF 2

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
35	MANPSC	INS		0.0	P		9A014	1		20.0					
38	MANPDD		~~1.00~~	.30	T	1.0	9A01H	1		.50					→ only 30 min. Bldg. #180 MINOR DMG
38	MANPDD			0.0	S	0.0									
38	MANPDD			0.0	P	24.0									
40	MANPSC	INS	1.00	1.00	T	1.00	9WG05	1		.50					
40	MANPSC	INS		0.0	S	0.0									
40	MANPSC	INS		0.0	P		13304	1		1.5					
40	MANPSC	INS		0.0	P		9A014	1		1.5					
50	MANPSC	INS	0.50	.50	T	0.0									→ 50, thank you [illegible]
50	MANPSC	INS		0.0	S										
50	MANPSC	INS		0.0	P		9A014	1		1.0					
80	MANPSC	REP	1.00	1.00	T	0.0									→ Repair - .50 and Replace - .50

SAS

OPERATION PROFILE

NAME GM Crowley ALC WR DATE 11-22-89 RCC MANPSC SHEET 3 OF 8

ITEM CD PCN 50266A WCD MB021D WCDDATE 88146

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
80	MANPSC	REP	.	0.0	S	0.0		.	.	.		.	.	.	
80	MANPSC	REP	.	0.0	P	.	9A014	1 ✓	.	20.0 ✓		.	.		[illegible]
90	MANPSC	REP	1.00	1.00	T	0.0		.	.	.		.	.	.	
90	MANPSC	REP	.	0.0	S	0.0		.	.	.		.	.	.	
90	MANPSC	REP	.	0.0	P	.	13304	1 ✓	.	40.0 ✓		.	.	.	
90	MANPSC	REP	.	0.0	P	.	9A014	1 ✓	.	40.0 ✓		.	.	.	
110	MANPSC	REP	1.00	1.00	T	0.0		.	.	.		.	.	.	
110	MANPSC	REP	.	0.0	S	0.0		.	.	.		.	.	.	
110	MANPSC	REP	.	0.0	P	.	13304	1 ✓	.	40.0 ✓		.	.	.	Equipment [illegible]
120	MANPSC	REP	1.00	1.00	T	0.0		.	.	.		.	.	.	
120	MANPSC	REP	.	0.0	S	0.0		.	.	.		.	.	.	
120	MANPSC	REP	.	.	P	.	13304	1 ✓	.	8.0 ✓		.	.	.	
120	MANPSC	REP	.	.	P	.	9A014	1 ✓	.	8.0 ✓		.	.	.	

OPERATION PROFILE SAS

NAME [illegible]

ITEM CD PCN 50266A

ALC WR

WCD MB021D WCDDATE 88146

DATE [illegible]

RCC MANPSC

SHEET 4 OF 8

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
130	MANPSC	REP	1.00	1.00	T	0.0									
130	MANPSC	REP		0.0	S	0.0									
130	MANPSC	REP		0.0	P		13304	1		40.0					
130	MANPSC	REP		0.0	P		9A014	1		40.0					
135	MANPSC	REP	1.00	1.00	T	0.0									[illegible], no damage
135	MANPSC	REP			S										
135	MANPSC	REP			P		13304	1		2.0					
135	MANPSC	REP			P		9A014	1		2.0					
140	MANPSC	REP	1.00	1.00	T	0.0									
140	MANPSC	REP			S										
140	MANPSC	REP			P		13304	1		2.0					
140	MANPSC	REP			P		9A014	1		2.0					

OPERATION PROFILE

NAME CM Burkey ALC WR DATE 11-22-89 RCC MANPSC SHEET 5 OF 8

ITEM CD PCN 50288A WCD MB021D WCDDATE 88146

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
145	MANPSC	REP	1.00	1.00	T	.		.	.	.		.	.	.	
145	MANPSC	REP	.	.	S	.		.	.	.		.	.	.	
145	MANPSC	REP	.	.	P	.	13304	1 ✓	.	12.0 ✓		.	.	.	
145	MANPSC	REP	.	.	P	.	9A014	1 ✓	.	12.0 ✓		.	.	.	
150	MANPSC	ASSY	1.00	1.00	T	.		.	.	.		.	.	.	
150	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
150	MANPSC	ASSY	.	.	P	.	13304	1 ✓	.	1.0 ✓		.	.	.	
150	MANPSC	ASSY	.	.	P	.	9A014	1 ✓	.	1.0 ✓		.	.	.	
155	MANPSC	REP	1.00	1.00	T	0.0		.	.	.		.	.	.	
155	MANPSC	REP	.	0.0	S	.		.	.	.		.	.	.	
155	MANPSC	REP	.	0.0	P	.	13304	1 ✓	.	8.0 ✓		.	.	.	
155	MANPSC	REP	.	.	P	.	9A014	1 ✓	.	8.0 ✓		.	.	.	
160	MANPDD		1.00	1.00	T	1.0	9A014	1	.	.50		.	.		→ 131.59. #180 MNVD [illegible]

OPERATION PROFILE

NAME C.M.Gurley ALC WR DATE 11-22-89 RCC MANPSC SHEET 6 OF 8

ITEM CD PCN 50288A WCD MB021D WCDDATE 88146

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
160	MANPDD		.	.	S	.		.	.	.		.	.	.	
160	MANPDD		.	.	P	24.0		.	.	.		.	.	.	
175	MANPDC		1.00	1.00	T	0.0		.	.	.		.	.		→ Bldg. #180 [illegible]
175	MANPDC		.	.	S	.		.	.	.		.	.	.	
175	MANPDC		.	.	P	24.0		.	.	.		.	.	.	
180	MANPDC		1.00	1.00	T	.		.	.	.		.	.		→ Bldg. #180 [illegible]
180	MANPDC		.	.	S	.		.	.	.		.	.	.	
180	MANPDC		.	.	P	24.0		.	.	.		.	.	.	
181	MANPDC		1.00	1.00	T	0.0		.	.	.		.	.		→ [illegible]
181	MANPDC		.	.	S	.		.	.	.		.	.	.	
181	MANPDC		.	.	P	24.0		.	.	.		.	.	.	
185	MANPDC		1.00	1.00	T	0.0		.	.	.		.	.		→

OPERATION PROFILE

NAME GM Gurdley ALC WR DATE 11-22-89 RCC MANPSC SHEET 7 OF 8

ITEM CD PCN 50266A WCD MB021D WCDDATE 88146

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
185	MANPDC		.	.	S	.		.	.	.		.	.	.	
185	MANPDC		.	.	P	48.0		.	.	.		.	.	.	
187	MANPSC	ASSY	0.75	1.00	T	1.0	91VG05	1	.	.50		.	.	.	
187	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
187	MANPSC	ASSY	.	.	P	.	13304	1 ✓	.	1.0 ✓		.	.	.	
187	MANPSC	ASSY	.	.	P	.	9A014	1 ✓	.	1.0 ✓		.	.	.	
188	MANPDB		0.75	1.00	T	1.0	9A014	1	.	.50		.	.		[illegible]
188	MANPDB		.	.	S	.		.	.	.		.	.	.	
188	MANPDB		.	.	P	16.0		.	.	.		.	.	.	
190	MANPSC	INS	0.75	1.00	T	1.0	9A014	1	.	.50		.	.	.	
190	MANPSC	INS	.	.	S	.		.	.	.		.	.	.	
190	MANPSC	INS	.	.	P	.	9A014	1 ✓	.	1.0 ✓		.	.	.	
200	MANPSC	ASSY	0.75	1.00	T	0.0		.	.	.		.	.	.	

OPERATION PROFILE

NAME [illegible] ALC WR DATE [illegible] RCC MANPSC SHEET 8 OF 8

ITEM CD PCN 50266A WCD MB021D WCDDATE 88146

OPER NUMB	RCC	OPER DESC	HIST OCCR	MAND OCCR	OPER TYPE	MAND F HRS	SKILL CD/LVL	QTY	%	HRS	EQUIP CODE	QTY	%	HRS	NOTES
200	MANPSC	ASSY	.	.	S	.		.	.	.		.	.	.	
200	MANPSC	ASSY	.	.	P	.	9A014	1	.	1.0		.	.	.	

SAS
ASSEMBLY/DISASSEMBLY PROFILE

8:21 WEDNESDAY, APRIL 5, 1989

NAME [illegible] ALC WR DATE 11-21-89 RCC MANPSC SHEET 1 OF 1

ITEM CODE	WCD	WCD DT	DSOP	ASOP	REMOV ITEM CODE	WCD	WCD DT	INSTALL SAME	NOTES
PCN 50164A		88147	40	80	PCN 351576-01				
PCN 50454A		88147	25	60	PCN 345208-3L				
PCN 50454A		88147	25	100	PCN 342781-501				
PCN 50454A		88147	25	100	PCN 354760				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-326				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-327				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-335				
PCN 51402A	MB019Y	88154	30	75	PCN 3P22002-336				
PCN 52464A	MB0210	88146	10	187	PCN 353972-1		→	YES	

DISASSEMBLY/ASSEMBL' ROFILE

NAME B M Bushey ALC MR-ALC DATE 4-24-84 RCC MMVPSC SHEET 1 OF 1

TOP ASSEMBLY			REMOVAL OPERATION NUMBER	INSTALLATION OPERATION NUMBER	SUBASSEMBLY			SAME REMOVED ITEM INSTALLED INTO ASSY. P/N
ITEM NUMBER	WCD	WCD DATE			ITEM NUMBER	CHILD WCD	CHILD WCD DATE	
PCN NSN P/N #52H6HA	MA021Q	88140	10	187	PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			
PCN NSN P/N					PCN NSN P/N			

LSC-20095A

SAS

MANPOWER PROFILE

8:20 WEDNESDAY, APRIL 5, 1989 1

NAME: AMQuadry ALC: WR DATE: 11-18-89 RCC: MANPSC SHEET 1 OF 1

SK CODE	DESCRIPTN	QTR	QUANTITY AVAILABLE WORK WEEK 1	2	3	WEEK END 1	2	3	HOLIDAY 1	2	3	AVAILABLE HRS (PER SHIFT) WORK WEEK 1	2	3	WEEK END 1	2	3	HOLIDAY 1	2	3	ALTERNATE SKILL CD/LVL	NOTES
13304	WG-5	1	.	.	.	.	.	.	.	.	.	5.7	.	.	.	.	.	.	.	.		
13304	WG-5	4	1	.	.	.	.	.	.	.	.	5.4	.	.	.	.	.	.	.	.		
48127	WS-14	1	.	.	.	.	.	.	.	.	.	5.7	.	.	.	.	.	.	.	.		
48127	WS-14	4	1	.	.	.	.	.	.	.	.	5.4	.	.	.	.	.	.	.	.		
9A012	WG-8	1	.	.	.	.	.	.	.	.	.	5.7	5.7	.	.	.	.	.	.	.	9A014/13304	
9A012	WG-8	4	50	10	.	.	.	.	.	.	.	5.4	5.4	.	.	.	.	.	.	.	9A014/13304	
9A014	WG-10	1	.	.	.	.	.	.	.	.	.	5.7	5.7	.	.	.	.	.	.	.	9A012	
9A014	WG-10	4	38	9	.	.	.	.	.	.	.	5.4	5.4	.	.	.	.	.	.	.	9A012	
9WG05	WH-5	1	1																			
9WG05	WH-5	4	1																			

SAS

MANPOWER PROFILE

8:20 WEDNESDAY, APRIL 5, 1989 1

NAME: [illegible]

ALC: WR

DATE: 4-18-89

RCC: MANPSC

SHEET 1 OF 1

SK CODE	DESCRIPTN	QTR	QUANTITY AVAILABLE WORK WEEK 1	2	3	WEEK END 1	2	3	HOLIDAY 1	2	3	AVAILABLE HRS (PER SHIFT) WORK WEEK 1	2	3	WEEK END 1	2	3	HOLIDAY 1	2	3	ALTERNATE SKILL CD/LVL	NOTES
13304	WG-5	1	.	.	.	.	.	.	.	.	.	5.7	.	.	.	.	.	.	.	.		
13304	WG-5	4	1	.	.	.	.	.	.	.	.	5.4	.	.	.	.	.	.	.	.		
48127	WS-14	1	.	.	.	.	.	.	.	.	.	5.7	.	.	.	.	.	.	.	.		
48127	WS-14	4	1	.	.	.	.	.	.	.	.	5.4	.	.	.	.	.	.	.	.		
9A012	WG-8	1	.	.	.	.	.	.	.	.	.	5.7	5.7	.	.	.	.	.	.	.	9A014/13304	
9A012	WG-8	4	50	10	.	.	.	.	.	.	.	5.4	5.4	.	.	.	.	.	.	.	9A014/13304	
9A014	WG-10	1	.	.	.	.	.	.	.	.	.	5.7	5.7	.	.	.	.	.	.	.	9A012	
9A014	WG-10	4	38	9	.	.	.	.	.	.	.	5.4	5.4	.	.	.	.	.	.	.	9A012	
9W305	WH-5	1	1																			
9W305	WH-5	4	1									- - - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -		

SAS

EQUIPMENT PROFILE

NAME: GMOwidney ALC: WR DATE: 4-18-89 RCC: MANPSC SHEET 1 OF 1

EQUIP CODE	EQUIP DESCR	QUANT S1	QUANT S2	QUANT S3	AVAIL FRQ	PREV MAINT S	PREV MAINT TIME	UNSCHED MTBF	UNSCHED MTTR	% NOT AVAIL	FOOTPRNT MIN	FOOTPRNT MAX	ALT EQP	SOURCE	NOTES
0577	A-Fixt.	1	.	.	180	2	24.0	.	.	.	—	—	—	MAD-MEXON	
1178	OVEN	1	.	.	180	1	2.0	90	11.0	~~15~~ 10	.	.	—	MAD-MEXON	
12119	A-Fixt	1	.	.	180	2	24.0	.	.	.	—	—	—	MAD-MEXON	
148010	Jig	1	.	.	180	2	8.0	.	.	.	—	—	—	MAD-MEXON	

SAS

EQUIPMENT PROFILE

NAME: GMQuadley ALC: WR DATE: 4-18-89 RCC: MANPSC SHEET 1 OF 1

EQUIP CODE	EQUIP DESCR	QUANT AVAIL S1	S2	S3	PREV MAINT FRQ	S	TIME	UNSCHED MTBF	MTTR	% NOT AVAIL	FOOTPRNT MIN	MAX	ALT EQP	SOURCE	NOTES
0577	A-Mixt.	1	.	.	180	2	24.0	.	.	.	—	—	—	MAD-MIXON	
1176	OVEN	1	.	.	180	1	2.0	90	11.0	~~75~~ 10	.	.	—	MAD-MIXON	
12119	A-Mixt	1	.	.	180	2	24.0	.	.	.	—	—	—	MAD-MIXON	
148010	Peg	1	.	.	180	2	8.0	.	.	.	—	—	—	MAD-MIXON	

EQUIPME PROFILE

NAME GM Guardbury ALC WR-ALC DATE 4-21-89 RCC MAWDSC SHEET 1 OF 3

EQUIPMENT CODE	EQUIPMENT TYPE/DESCRIPTION	QUANTITY PER SHIFT			DOWNTIME					PERCENT USED FOR OTHER RCCs (e.g. TIME NOT AVAILABLE)	ENVELOP UNITS	ALTERNATE EQUIPMENT CODE	SOURCE
					PREVENTIVE MAINT.			UNSCHEDULED BREAKDOWN REPAIR TIME					
		1st	2nd	3rd	FREQ.	SHIFT	DOWN TIME	MTBF	MTTR		MIN / MAX		
	Jig Resp.												
48010	Control Wing Flap	1	1	1	180	2nd	8.0				1 / 1		
	Jig Resp.												
2119	Elevator - L/H	1	1	1	180	2nd	24.0				1 / 1		
	Jig Resp.												
2617	Elevator - R/H												
	Fixture												
48012	Main Landing Gear Door - R/H												
	Fixture												
48013	Main Landing Gear Door - L/H												
	Fixture												
N7050	Nose Landing Gear Door												
	Fixture												
48099	Cabin Door												
	Fixture												
48099	Outer Wing Flap R/H												
	Fixture												
M9095	Outer Wing Flap L/H												
	Machine												
	Band Saw												
	Fixture												
R9030	RCX - Cowl R/H												
	Fixture												
M9614	RCX - Cowl L/H												

EQUIPME rROFILE

NAME GMGundry ALC WB-ALC DATE 4-21-89 RCC MAWDSC SHEET 2 OF 3

EQUIPMENT CODE	EQUIPMENT TYPE/DESCRIPTION	QUANTITY PER SHIFT			DOWNTIME					PERCENT USED FOR OTHER RCCs (e.g. TIME NOT AVAILABLE)	ENVELOP UNITS	ALTERNATE EQUIPMENT CODE	SOURCE
					PREVENTIVE MAINT.			UNSCHEDULED BREAKDOWN REPAIR TIME			MIN / MAX		
		1st	2nd	3rd	FREQ.	SHIFT	DOWN TIME	MTBF	MTTR				
M4645	Fixture Rack-Cowl L/H												
A7512	Fixture Rack-Cowl L/H												
	Machine Electric Gen.												
48093	Fixture Elevator-Jet R/H												
M4244	Fixture Elevator-Jet L/H												
	Fixture Cowl-Doors L/H												
	Fixture Elev.-Tab SCH-2011												
	Fixture Elev.-Tab SCH-2011												
	Machine Dumpbeing												
48091	Fixture Pylon-L/H												
M4244	Fixture Pylon-R/H												
	Fixture C-141 Ramp												

EQUIPME ROFILE

NAME G M Guthrey ALC WR-ALC DATE 4-21-79 RCC DMADSC SHEET 3 OF 3

EQUIPMENT CODE	EQUIPMENT TYPE/DESCRIPTION	QUANTITY PER SHIFT			DOWNTIME					PERCENT USED FOR OTHER RCCs (e.g. TIME NOT AVAILABLE)	ENVELOP UNITS	ALTERNATE EQUIPMENT CODE	SOURCE
					PREVENTIVE MAINT.			UNSCHEDULED BREAKDOWN REPAIR TIME					
		1st	2nd	3rd	FREQ.	SHIFT	DOWN TIME	MTBF	MTTR		MIN / MAX		
	Air Rsy.												
M5KOF	Cargo Ramp #1 Air												
	Machine #DV1526												
	Shear Metal Cut												
	Machine												
	Sheet Metal-Manual Brake												
	Machine #241-C												
	Shear Machine												
	Machine #DV0543												
	Drill Press												
	Extrusion												
	Fwd Cowl Support												
	Extrusion												
DW1492	C-130 Ramp												
	Machine												
	Sheet Metal-Magnetic Brake												

PARALLEL PROCESS PROFILE

NAME POASHYAN ALC NR-ALC DATE 5/18/89 RCC MANPSC SHEET 1 OF 1

ITEM NUMBER	PARENT WCD	PARENT WCD DATE	BEGINNING OPERATION NUMBER	ENDING OPERATION NUMBER	CHILD PROCESS INFORMATION		
					ITEM NUMBER	CHILD WCD	CHILD WCD DATE
PCN NSN P/N 06692A	MB014Y	87363	183	220	PCN NSN P/N 06692A/P1	—	—
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		
PCN NSN P/N					PCN NSN P/N		

LSC-20103A

SAS

WORKLOAD PROFILE

8:24 WEDNESDAY, APRIL 5, 1989 1

NAME GMGurdley ALC WR DATE 21-15-89 RCC MANPSC SHEET 1 OF 1

ITEM CODE	AIRCRAFT MODEL	WCD	WKL TYP	FLOAT STOCK	INDUCTIONS PER QTR Q1	Q2	Q3	Q4	NO OF FPS	MAX WIP	STD HRS	NOTES
PCN 08692A	C-141	MBA14Y	4	.	—	—	—	—	—	.	—	
PCN 08692A	C-141	MBD14Y	4	.	—	—	—	—	—	.	—	
PCN 08692A	C-141	MB014Y	4	.	55	27	49	49	—	.	1.8.79	
PCN 50164A	C-130	MB024D	4	.	4	14	12	12	—	2	61.1	
PCN 50266A	C-130	MB021D	4	.	0	0	3	1	—	.	197.84	
PCN 50454A	C-130	MBA53D	4	2	—	—	—	—	—	—	—	
PCN 50454A	C-130	MBB53D	4	—	—	—	—	—	—	—	—	
PCN 50454A	C-130	MB053D	4	—	1	5	5	5	—	.	159.30	
PCN 51402A	C-141	MB019Y	4	.	5	3	3	5	—	.	69.11	

ITEM SUMMARY
(For Internal Use, Not a Model Input)

NAME C M Bradley ALC AMA-ALC DATE 4-22-89 RCC MAN PSC SHEET 1 OF 1

ITEM NUMBER	WCD	WORKLOAD TYPE	HISTORICAL FLOW TIME	STANDARD HOURS	EXPECTED HOURS
PCN NSN P/N #C6691A	MB014Y	H		186.79	6.96
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					

NOTE: HISTORICAL FLOW TIME WILL BE GENERATED BY DATA PROCESSING. IF NO HISTORY IS COLLECTED ON WCD DATA COLLECTION SYSTEM, THIS INFORMATION MUST BE C[illegible]INED ON-SITE. EXPECTED HOURS WILL BE GENERATED FROM OPS. PROFILES [illegible] DATA PROCESSING.

NAME
ITEM CD
OPER NUMB R

160 M
160 M
175 M
175 M
175 M
180 M
180 M
180 M
181 I
181
181
185

ITEM SUMMARY
(For Internal Use, Not a Model Input)

NAME C M Curtis ALC WR-ALC DATE 4-30-89 RCC MAINOPS SHEET 1 OF 1

ITEM NUMBER	WCD	WORKLOAD TYPE	HISTORICAL FLOW TIME	STANDARD HOURS	EXPECTED HOURS
PCN NSN P/N #5016HA	MR09HO	MX34R	--	61.0	288
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					

NOTE: HISTORICAL FLOW TIME WILL BE GENERATED BY DATA PROCESSING. IF NO HISTORY IS COLLECTED ON WCD DATA COLLECTION SYSTEM, THIS INFORMATION MUST BE [illegible]INED ON SITE. EXPECTED HOURS WILL BE GENERATED FROM OPS. PROFILES [illegible] DATA PROCESSING.

ITEM SUMMARY
(For Internal Use, Not a Model Input)

NAME C M Gintley ALC MAR-ALC DATE 4-25-89 RCC MAINBSC SHEET 1 OF 1

ITEM NUMBER	WCD	WORKLOAD TYPE	HISTORICAL FLOW TIME	STANDARD HOURS	EXPECTED HOURS
PCN NSN P/N # 514028	MB0194	MIS-tg	-	69.12	792 HRS
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					

NOTE: HISTORICAL FLOW TIME WILL BE GENERATED BY DATA PROCESSING. IF NO HISTORY IS COLLECTED ON WCD DATA COLLECTION SYSTEM, THIS INFORMATION MUST BE OBTAINED ON-SITE. EXPECTED HOURS WILL BE GENERATED FROM OPS. PROFILES BY DATA PROCESSING.

ITEM SUMMARY
(For Internal Use, Not a Model Input)

NAME G M Gwadley ALC MAR-ALC DATE 5-2-79 RCC MANTECO SHEET 1 OF 1

ITEM NUMBER	WCD	WORKLOAD TYPE	HISTORICAL FLOW TIME	STANDARD HOURS	EXPECTED HOURS
PCN NSN P/N #504544	M30538	1125 4A	—	158.30	888
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					

NOTE: HISTORICAL FLOW TIME WILL BE GENERATED BY DATA PROCESSING. IF NO HISTORY IS COLLECTED ON WCD DATA COLLECTION SYSTEM, THIS INFORMATION MUST BE OBTAINED ON-SITE. EXPECTED HOURS WILL BE GENERATED FROM OPS. PROFILES BY DATA PROCESSING.

LSC 0971

ITEM SUMMARY
(For Internal Use, Not a Model Input)

NAME GM Bradley ALC WR-ALC DATE 4-22-84 RCC MAN/DSC SHEET 1 OF 1

ITEM NUMBER	WCD	WORKLOAD TYPE	HISTORICAL FLOW TIME	STANDARD HOURS	EXPECTED HOURS
PCN NSN P/N #50266A	MB021Q	4		12.00	336
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					
PCN NSN P/N					

NOTE: HISTORICAL FLOW TIME WILL BE GENERATED BY DATA PROCESSING. IF NO HISTORY IS COLLECTED ON WCD DATA COLLECTION SYSTEM, THIS INFORMATION MUST BE C[illegible]INED ON-SITE. EXPECTED HOURS WILL BE GENERATED FROM OPS. PROFILES [illegible] DATA PROCESSING.

ITEM CHECKLIST
(For Internal Use, Not a Model Input)

NAME G. McCurdey ALC MAS-OKC DATE _____ RCC -MAS-OKC SHEET 1 OF 1

ITEM NUMBER	SPECIFY IF PCN NSN P/N	WCD NO.	WCD DATE	OPERATION PROFILE	DS/AS PROFILE	PARALLEL OPS PROFILE	HISTORICAL DATA	INDUCTION SELL DATE	BLANK WCD	STAMPED OFF WCD REVISIONS	STANDARD HOURS	STANDARD FLOW TIMES	PROCESS FLOW CHARTS
E046920	OEM	MBOMY	87363	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓

ITEM CHECKLIST
(For Internal Use, Not a Model Input)

NAME GM. Gurley ALC WB-Ala DATE 4-30-89 RCC Maxwell SHEET 1 OF 1

ITEM NUMBER	SPECIFY IF PCN NSN P/N	WCD NO.	WCD DATE	OPERATION PROFILE	DS/AS PROFILE	PARALLEL OPS PROFILE	HISTORICAL DATA	INDUCTION SELL DATE	BLANK WCD	STAMPED OFF WCD REVISIONS	STANDARD HOURS	STANDARD FLOW TIMES	PROCESS FLOW CHARTS
1 5016 HR	PCN	M80240	881147	✓	N/A	N/A	✓	✓	✓	✓	✓	✓	✓

ITEM CHECKLIST
(For Internal Use, Not a Model Input)

NAME G M Guidry ALC WR-ALC DATE 4-25-84 RCC MAVASC SHEET 1 OF 1

ITEM NUMBER	SPECIFY IF PCN NSN P/N	WCD NO.	WCD DATE	OPERATION PROFILE	DS/AS PROFILE	PARALLEL OPS PROFILE	HISTORICAL DATA	INDUCTION/ SELL DATE	BLANK WCD	STAMPED OFF WCD REVISIONS	STANDARD HOURS	STANDARD FLOW TIMES	PROCESS FLOW CHARTS
#51402R	PCN	MA014	88154	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓

ITEM CHECKLIST
(For Internal Use, Not a Model Input)

NAME Gill Guardy ALC WR-ALC DATE 5-2-94 RCC [illegible] SHEET 1 OF 1

ITEM NUMBER	SPECIFY IF ECN NSN PIN	WCD NO.	WCD DATE	OPERATION PROFILE	DS/AS PROFILE	PARALLEL OPS PROFILE	HISTORICAL DATA	INDUCTION SELL DATE	BLANK WCD	STAMPED OFF WCD REVISIONS	STANDARD HOURS	STANDARD FLOW TIMES	PROCESS FLOW CHARTS
#5W5HB	PCN	MGB5JB	88144	✓	✓	N/A	✓	✓	✓	✓	✓	✓	✓

LSC 20098A

ITEM CHECKLIST
(For Internal Use, Not a Model Input)

NAME C M Guidry ALC WB-RLC DATE 4-22-89 RCC MANRIC SHEET 1 OF 1

ITEM NUMBER	SPECIFY IF PCN NSN P/N	WCD NO.	WCD DATE	OPERATION PROFILE	DS/AS PROFILE	PARALLEL OPS PROFILE	HISTORICAL DATA	INDUCTION/ SELL DATE	BLANK WCD	STAMPED OFF WCD REVISIONS	STANDARD HOURS	STANDARD FLOW TIMES	PROCESS FLOW CHARTS
#502668	DCN	MA0216	88146	✓	N/A	N/A	✓	✓	✓	✓	✓	✓	✓

LSC 20098A

5.1 PROFILE DATA FILES

The profile data files for RCC MANPSC were previously submitted under memo number NKE-E016-7603, dated July 6, 1989.

5.2 MODEL INPUT FILES

The model input files for RCC MANPSC were previously submitted under memo number NKE-E016-7603, dated July 6, 1989.

6.0 VALIDATION OF INPUT DATA

All profile data was validated in accordance with paragraph 7.2 and 7.3 of the Simulation Model Definition Document (SMDD). The profile data files included in this document were validated and accurately represent this RCC.

MINUTES OF

MODEL VALIDATION MEETING

June 19 thru June 23, 1989

WR-ALC/MDMSC

6-29-89

WR-ALC MODEL VALIDATION
MEETING MINUTES

19 June 89:

- Jim Gillis started the meeting by introducing team members:

  - Jim Gillis
  - Gerald Peavy
  - Doug Keene
  - Lott Singletary

  AFLC Representative:

  - Trixie Brown

  MDMSC Representatives:

  - Bob Bashyam
  - Bill Rich
  - Roger VanderVoord
  - Scott Vroman

- Jim pointed out that AFLC instructed them not to sign off the Model Validation Form.

- Reviewed model output for RCC MANPSA. Evaluated throughput, historical flow hours vs. simulated flow hours, expected hours vs. standard hours.

- This evaluation was performed for each item number. During this process list of major assumptions, action items and concerns were noted.

  PCN 01900A: F-15 Speed Brake

  - Historical flow hours 933.5 vs. 466.70 of simulated flow hours.

    Assumption:

    Method of induction may be a problem. History does reflect 500 hours to complete first operation which is inspection.

    Historical backshop hours were greater than simulated hours. We decided to input backshop hours back into the model.

PCN 01900A: F-15 Speed Brake (continued)

- Action items:

  Doug to verify the manpower utilization. Bill to review expected and standard hours.

PCN 05502A: C-141 Aileron

- Simulated throughput 13.2% difference. The difference was due to sporadic induction method.

PCN 51334A: C-141 Leading Edge Horizontal Stabilizer

- Bill to review expected hours.
- Increase backshop hours by 180 hours based on historical report.

PCN 51352A: C-141 Access Door

- Bill to review expected hours.
- Increase backshop hours based on historical report.

PCN 51418A: C-141 Leading Edge Wing

- Bill to verify expected hours.

PCN 51454A: C-141 Petal Door

- Bill to review the subassembly process hours.
- History had one sample of 698 days - adjusted for this odd occurence and made hours from 2268 to 1334.

- This completes the evaluation of model output for RCC MANPSA. At the end of this evaluation, Bob summarized the action items and assumptions. Jim commented that the model

seems to be doing what it is suppose to and asked MDMSC team to complete the action item and re-run the output. Jim also stated that either expected or standard hours can be used in establishing baseline of model based on IE's judgment. AFLC's representative, Trixie Brown, disagreed with Jim's comment. Validation team decided that during evaluation of difference between historical vs. simulation, 10% should be used only as a guideline not as a measurement.

Evaluation of RCC MANPGC:

- Evaluated the model output for the following PCNs: 06121A, 74061A, 74063A, 74146A, 74148A and 74149A.

- Review of throughput, historical vs. simulated flow hours and expected vs. standard hours revealed the following:

  - Expected vs. standard hours were within acceptable range.

  - Throughput was good.

  - Flow hours showed lot of difference between simulation and history. Review of historical report revealed that an unique pattern of process is being followed in Gyro Shop. Gyros after inspection were stored/held for long period of time before the start of repair operation.

  - Discussed about this problem. Doug and Jim wanted to have some methodology to show the unique holding process.

20 June 89:

- Bruce Kirk of MDMSC joined us to facilitate our brainstorming effort.

- Conducted brainstorming effort at Building 169. Morning session for Sheet Metal RCC's MANPSA, MANPSB, MANPSC, and MANPSD and afternoon for Gyro RCC's MANPGA, MANPGB, and MANPGC.

- Due to the nature of process and similarity we decided to have one brainstorming effort for Sheet Metal (4 RCCs) and one for Gyro (3 RCCs).

- Doug arranged both the sessions by bringing in representatives from manufacturing, scheduling, planning and quality.

- Both the sessions went out very good with a lot of participation. Developed fish bone - details of fish bone and brainstorming activities are covered in minutes of model validation/brainstorming.

21 June 89:

- Evaluated the model output for all the RCCs MANPSA, MANPSB, MANPSC, MANPSD, MANPGA, MANPGB, and MANPGC.

- Redlined the backshop hours and added buffer operations as requested by ALC for Gyro RCCs.

- Input all the changes and re-run the model.

- Dick Donnelly and Lou Mavros joined us to support our model validation effort.

- Dick, Lou, Bob and Gerald had an opportunity to meet Mr. Clinton Lewis. Discussed about the validity of model and about future task orders.

- Jim Gillis will be on vacation for the rest of the week.

22 June 89:

- Evaluated the re-run of model ouput after inputting the redlined corrections.

MANPSA

01900A: F-15 Speed Brake

- Expected vs. standard hours is acceptable.

- Historical vs. simulated flow hours - still have a problem. History shows operation 10 takes about 500 hours to complete. This is due to induction and priority problem. Operation 40 shows 68 hours to complete (waiting for engineer) whereas model shows 1 hour. One hours represents process hour whereas 68 hours includes waiting time also.

05502A: C-141 Aileron

- This a PDM item. No historical data available. Evaluated the output and verified with mechanics and planners to validate the model output.

051334A: C-141 Leading Edge Horizontal Stabilizer

- Standard vs. expected hours is within acceptable range.

- Backshop hours were off. Redlined the output.

51454A: C-141 Petal Door

- Model output does seem to represent as-is condition.

51352A: C-141 Access Door

- Redlined backshop hours to represent historical data.

MANPSD

09193A: F-15 Radome

- Expected vs. standard hours is within acceptable range.

- Simulated flow hours are almost double the historical. Review showed us operation 190 takes about 550 hours to complete.

- Operation 190 is repair operation performed by one mechanic for about 50 hours. Model shows the manpower availability as a problem.

- Doug pointed out that the model exaggerates the problem.

41059A: C-130 Radome Assembly

- Model output does seem to represent the as-is condition.

- Needed to verify the historical data of 500 hours for operation 10.

51420A: C-141 Wing Leading Edge

- Evaluated the output and redlined backshop hours.

40208A: C-130 Radome

- Ouput does seem to represent the as-is condition except the historical hours for Operation 30.

- History shows that it takes over 4000 hours to complete Operation 30.

- Bob to check the historical input data at St. Louis, if availabe and respond to WR-ALC.

03172A: F-15A Canopy

- Evaluated model output. History shows that it takes approximately 1180 hours to complete Operation 10.

- Operation 10 is to inspect and determine what parts are required to perform the repair. It does wait for a long time in getting those required parts.

MANPSB

- This is a manufacturing RCC.
- No historical data for analysis. Reviewed only the throughput.
- Model output was validated based on it's performance on the other 6 RCCs.

MANPG

- Evaluated the re-run of model out for RCCs MANPGA, MANPGB and MANPGC.
- Output for these RCCs were reviewed earlier. Buffer operation were added where necessary to represent historical data.
- Output for PCNs 74010A, 74074A, 74163A, 74126A, 74051A, 20012A, 06121A, 74061A, 74063A, 74146A, 74148A, and 74149A from all the three RCCs were individually evaluated.
- Flow hours, process hours and throughput were within acceptable range. Model does represent the as-is condition.
- Doug and Lott questioned the validity of historical data for PCNs 74074A and 20012A. Wanted to verify with manufacturing personnel.

23 June 89:

- Doug and Lott verified and confirmed the flow hour information.
- Reviewed the re-runs of model output.
- Bob compiled the meeting of minutes and reviewed with team members.

- WR-ALC/AFLC/MDMSC validation team agrees that the model seems to represent the approximation of as-is condition of RCCs MANPSA, MANPSB, MANPSC MANPSD, MANPGA, MANPGB and MANPGC; therefore, the model can be used as a baseline for experimentation.

Doug Keene, WR-ALC/MANEE

Lott Singletary, WR-ALC/MANEE

Jim Gillis, WR-ALC/MAWF

Gerald Peavy, WR-ALC/MAWF

Trixie Brown, AFLC/MAQF

Scott Vroman, MDMSC

Bill Rich, MDMSC

for Roger VanderVoord, MDMSC

Bob Bashyam, MDMSC

6-29-89 / Rev-1
BB/fej

7.0 COMPUTER SIMULATION ANALYSIS OF RCC

The computer simulation analysis for RCC MANPSC was previously submitted under memo number NKE-E016-7603, dated July 6, 1989.

8.0 VALIDATION OF SIMULATION ANALYSIS

The validation of simulation analysis for RCC MANPSC was previously submitted under memo number NKE-E016-7603, dated July 6, 1989.

9.0 BRAINSTORMING

The minutes for RCC MANPSC brainstorming were previously submitted under memo number NKE-E016-7603, dated July 6, 1989.

MINUTES OF

BRAINSTORMING SESSIONS

June 20, 1989

WR-ALC/MDMSC

MINUTES OF BRAINSTORMING
SESSION FOR FOUR SHEET METAL RCCs
- June 20, 1989 Morning Session -

Jim Gillis started the brainstorming session by introducing the facilitator Bruce Kirk of MDMSC. The following were in attendance for this session:

Bashyam, Bob	MDMSC
Gillis, Jim	WR-ALC/MAWF
Jackson, John	WR-ALC/MANERS
Keene, Doug	WR-ALC/MANEE
Kirk, Bruce	MDMSC
Kittrell, Don	WR-ALC/MANSCA
Morrison, Michael	WR-ALC/MANERS
Nicholson, Richard	WR-ALC/MANERS
Powell, David	WR-ALC/MANPSA
Rich, Bill	MDMSC
Singletary, Lott	WR-ALC/MANEE
VanderVoord, Roger	MDMSC
Warnock, Kevin	WR-ALC/MANEE
Williams, Sam	WR-ALC/MANPSA

Bruce Kirk being the facilitator briefed to participant the process of brainstorming. Bruce emphasized flow time is the quality characteristic that we are trying to improve or minimize. With that round robin solution presentation process started. Following are the suggestions:

1. Time in Wet Clean (Back Shop).
2. Prioritize of workload (F-15 first).
   a. May stop in middle of repair to respond.
   b. Demand system.
3. Manpower.
4. Training shop - mechanics get transferred to F-15 Shop.

5. Two shifts in certain shops.

6. Lack of space and environmental control.

7. No storage space for fixtures etc.

8. Chemical availability - anodize, etc.

9. Hand tools - proper matching to job. Prompt replacement of broken tools. Resizing the tool box may improve space.

10. Workload - need better forecasting.

11. RCC MANPSB completes then ships to storage - delay 10 to 15 days to get the same part back in finishing the repair.

12. Major repair coordination with Engineering - delays.

13. Update drawings requires 60 days.

14. Expedite travel of priorite parts.

15. Space organization.

16. Equipment modernization.

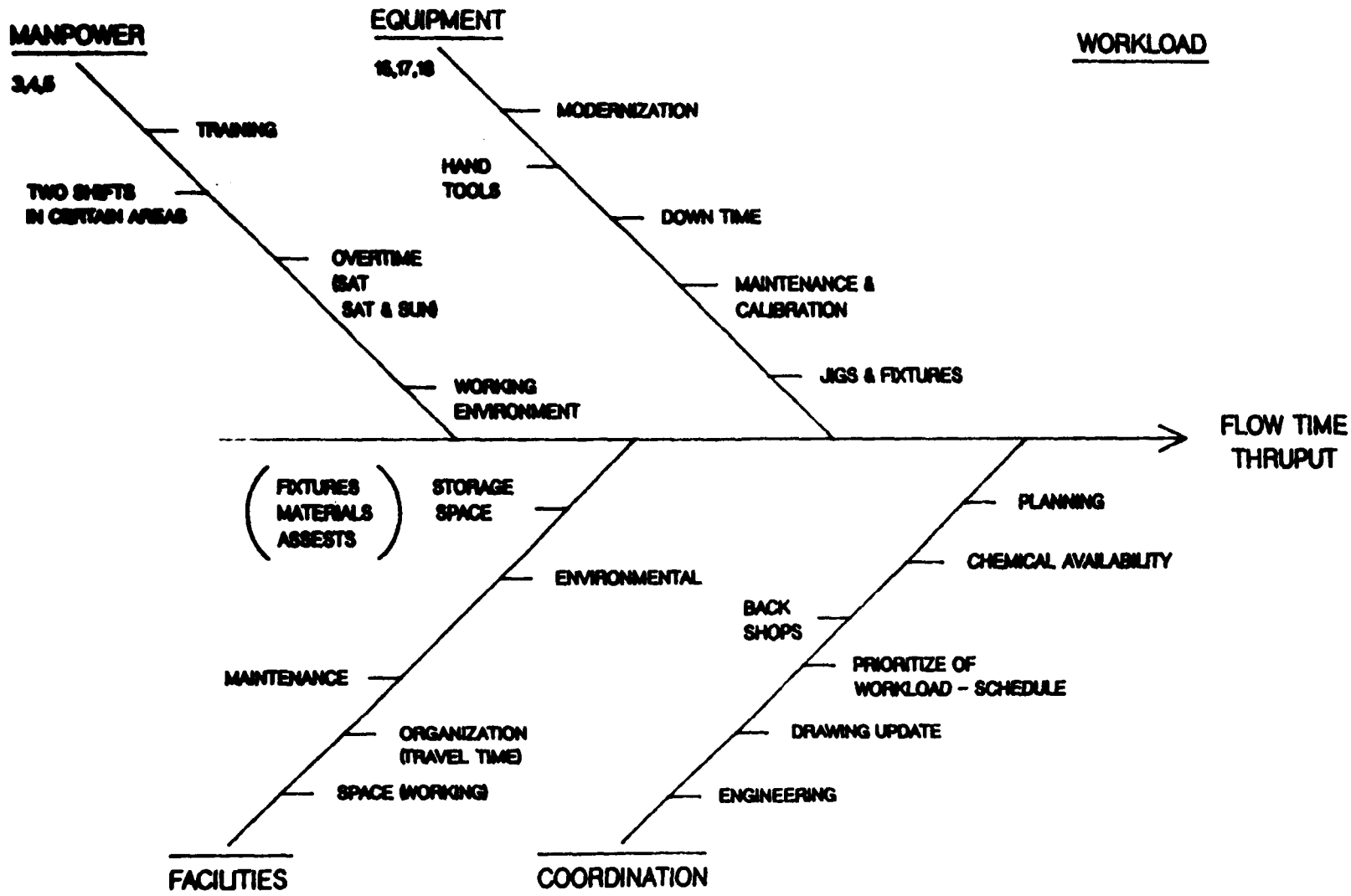
17. Equipment preventive maintenance and calibration.

18. Jigs and fixtures - modify to ease use without removal. Work stand - better accessibility.

DEVELOPED FISHBONE (CAUSE AND EFFECT) DIAGRAM.

Minutes of Brainstorming Session
June 20, 1989 Morning Session
Page Three

SHEET METAL SHOP
FISHBONE - CAUSE & EFFECT DIAGRAM



RCC: MAN PSC SUMMARY OF RE-EVALUATION

- Reformatted the results of Lg taguchi orthogonal array table.
- Evaluated throughput of each run for average throughput of RCC.
- Analyzed and tabulated results of best and worst PCN for each run including surge.
- This approach gives us a better understanding of the RCC's capability, process, and bottlenecks.

MANPSC CONTROL FACTORS
TABLE 10.6.2-1

BASE	BASE+	BASE++
• INCREASE FY 88 WORKLOAD BY 130%. • ALL OTHER FACTORS REMAIN IN THE AS-IS CONDITION.	• INCREASE FY 88 WORKLOAD BY 130%. • WRITE PSUEDO WCD FOR C-141 AFT COWL - PCN 05502A. • USE 8 SETS OF MODIFIED FIXTURES FOR C-141 AFT COWL	• INCREASE FY 88 WORKLOAD BY 130%. • WRITE PSUEDO WCD FOR C-141 AFT COWL - PCN 05502A. • USE 10 SETS OF MODIFIED FIXTURES FOR C-141 AFT COWL

LSC-20610

MANPSC SHEET METAL SHOP TAGUCHI ORTHOGONAL ARRAY

TABLE 10.6.2-2

RUN #	FACTORS & LEVELS						WORKLOAD (THROUGHPUT)		
	MANPOWER			OVERTIME		EQUIPMENT	INDUCTIONS: 560: 130% OF FY 88		
	1	2	3	SAT	SUN		AVG.	BEST	WORST
1	ALL					BASE	91.4 %	51402A 104.5 %	06692A 92.5 %
2	ALL			YES	YES	BASE +	36.6 %	51402A 96.0 %	06692A 23.0 %
3	ALL			YES	YES	BASE ++	44.0 %	51402A 96.0 %	06692A 35.0 %
4	50%	50%				BASE ++	60.5 %	51402A 96.0 %	06692A 53.0 %
5	50%	50%		YES	YES	BASE	98.7 %	51402A 104.0 %	50164A 92.0 %
6	50%	50%		YES	YES	BASE +	56.0 %	51402A 96.0 %	06692A 47.0 %
7	1/3	1/3	1/3			BASE +	68.4 %	51402A 96.0 %	06692A 63.0 %
8	1/3	1/3	1/3	YES	YES	BASE ++	91.4 %	51402A 96.0 %	06692A 92.0 %
9	1/3	1/3	1/3	YES	YES	BASE	98.5 %	51402A 104.0 %	50164A 94.0 %
SURGE*	50%**	50%**				BASE	60.0 %	51402A 110.0 %	06692A 53.0 %

NOTES:
* INDUCTIONS = 579 (2 QTRS)
** TWO 12 HOUR SHIFTS.

LSC-20616

MANPSC SHEET METAL TAGUCHI ORTHOGONAL ARRAY

TABLE 10._._-_

RUN #	FACTORS & LEVELS						WORKLOAD (THROUGHPUT)			
	MANPOWER			OVERTIME		EQUIPMENT	130% OF FY 88		SURGE	
	1	2	3	SAT	SUN		QTY	%	QTY	%
1	ALL					BASE	512	91	348	60
2	ALL			YES	YES	BASE +	205	37		
3	ALL			YES	YES	BASE ++	248	44		
4	50%	50%				BASE ++	339	61		
5	50%	50%		YES	YES	BASE	553	99		
6	50%	50%		YES	YES	BASE +	314	56		
7	1/3	1/3	1/3			BASE +	383	68		
8	1/3	1/3	1/3	YES	YES	BASE ++	512	91		
9	1/3	1/3	1/3	YES	YES	BASE	552	98		

LSC-20334

AD-A237 083 TECHNOLOGY INSERTION (TI)/INDUSTRIAL PROCESS IMPROVEMENT (IPI) TASK ORDER..(U) MCDONNELL DOUGLAS MISSILE SYSTEMS CO ST LOUIS MO 14 AUG 89 XF-AFLC 3/3

UNCLASSIFIED F33600-88-D-0567 NL

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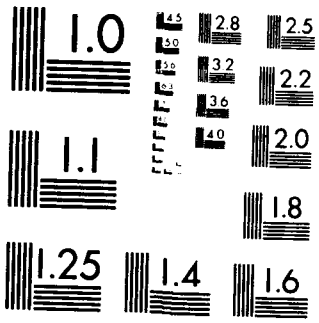
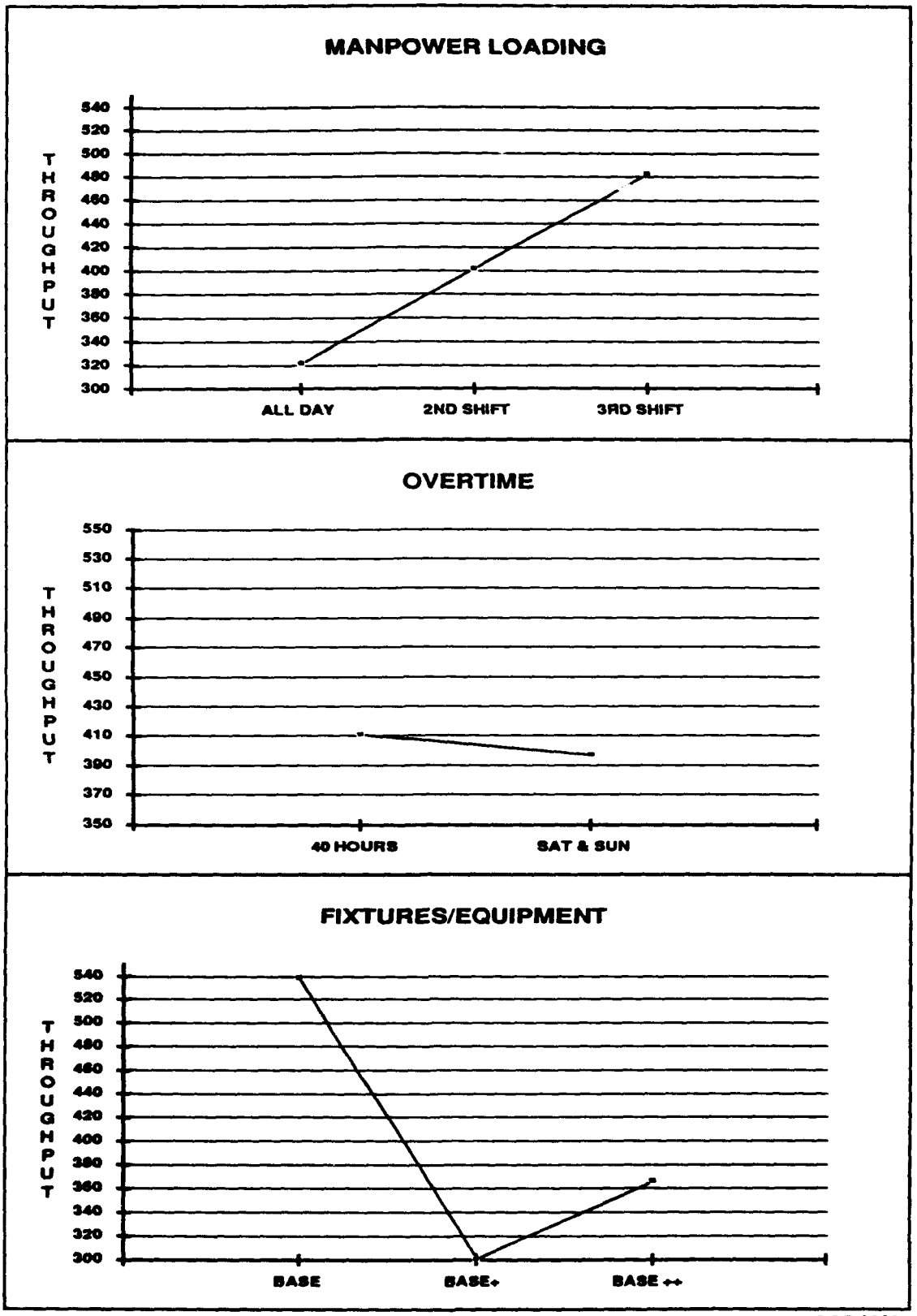


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



LSC-20336

MANPSC EXPERIMENTATION RESULTS

MANPSC- WRALC

MANPOWER

WKL: 560

1) $\frac{512+205+248}{3} = 322$ 58%

2) $\frac{339+553+314}{3} = 402$ 72%

3) $\frac{383+512+552}{3} = 482$ 86%

OVERTIME:

1) $\frac{205+248+553+314+512+552}{6} = 397 = 71\%$

40HRS $\frac{512+339+383}{3} = 411 = 73\%$

FIXTURE/EQUIPMENT:

BASE : $\frac{512+553+552}{3} = 539 = 96\%$

BASE+ : $\frac{205+314+383}{3} = 301 = 54\%$

BASE++ : $\frac{248+339+512}{3} = 366 = 65\%$

MANPSC - WRALC

FACTORS / ASSUMPTIONS

BASE : INCREASE FY88 WORKLOAD BY 130%.
MAINTAIN ALL OTHER RESOURCE FILES
AS IN AS-IS CONDITION.

BASE+ : INCREASE FY88 WORKLOAD BY 130%.
WRITE PSEUDO WCD FOR AFT COWL
PCN 06692A.
ADD 8 SETS (16 QTY) OF MODIFIED HOLDING
FIXTURE.

BASE++ : INCREASE FY88 WORKLOAD BY 130%.
WRITE PSEUDO WCD FOR AFT COWL
PCN 06692A.
ADD 10 SETS (20 QTY) OF MODIFIED
HOLDING FIXTURE.

SURGE : INCREASE 130% OF FY88 WORKLOAD
BY SURGE FACTOR.
F15 - 61%, C141 - 246% & C130 - 159%.
MANPOWER: SPREAD THEM TO (2) 12 HRS
SHIFT 5 DAYS A WEEK.

MANPSC - WRALC

SUMMARY:

REVIEWED THE RESULTS OF THE OUTPUT ANALYSIS OF THIS EXPERIMENTAL DESIGN FOR RCC MANPSC. THE RESULTS DOES IDENTIFY THE AREA OF POTENTIAL IMPROVEMENT AND PROBLEM.

SIMULATION OUTPUTS INDICATE THAT THE 180% OF FY88 WORKLOAD CAN BE ACCOMPLISHED WITH PRESENT MANPOWER AND FIXTURE. SPREADING OF MANPOWER MAKES LOT OF DIFFERENCE IN THROUGHPUT.

ANALYSIS OF OUTPUT DOES ALSO INDICATE THAT THE MODIFICATION OF HOLDING FIXTURE ALONE WILL NOT IMPROVE THROUGHPUT OR FLOW TIME. EVEN THOUGH THE MODIFIED HOLDING FIXTURE WILL PROVIDE QUALITY PRODUCT, MINIMIZE REWORK AND SCRAP AND BETTER CONTROL ON SCHEDULING THE JOB - PROCESS NEEDS TO BE FINE TUNED.

ALLOCATION AND TRAINING OF MANPOWER IS ABSOLUTELY A MUST.

PROCESSED RUN #1 FOR 2 QTR WITH SURGE REQUIREMENT. SENSITIVITY OF THE SIMULATION RUN REVEALS THAT ON AN AVERAGE ONLY 60% CAN BE ACCOMPLISHED AT AS-IS CONDITION.

I

MANPSC C-141 AFT COWL

I REVISE WCD MB014Y, (DATED 87363):

BLDG.	OPER	WORK TO BE DONE	M/P	TOTAL PROCESS HOURS
169	010	(SAME)	—	—
180	020		—	—
169	030		—	—
	040	(SAME)	—	—
	060	(ADD) "LOAD PANEL IN FIXTURE"	—	—
	070	(SAME)	—	—
	075		—	—
	085		—	—
	090		—	—
	100		—	(4.0)
	130		2	40.0
169	135		—	—
180	140		—	—
169	150		—	—
	151	(SAME)	—	—
	152	(CHG) TO: "INSPECT ALL FITTINGS"	—	—
	153	(SAME)	—	—
	154		—	—
	155	(SAME)	—	—
	156	(REM) "IN ROUR ---- TRIM BOARDS"	—	—
	157	(REM) "USING ------ (AFT)"	—	—
	158	(SAME)	—	—
	159	(REM) "ON ---- PURPOSE"	—	—
	160	(SAME)	—	—
	170	(SAME)	—	(8.0)
169	171	(REM) "CHECK ---- FIXTURES"	2	4.0

BLDG	OPER	WORK TO BE DONE	M/P	TOTAL PROCESS HOURS
169	172	(SAME)	—	—
	174	(SAME)	—	—
	175	(SAME)	—	—
	176	(REM) "USE _____ FIXTURES"	—	—
	177	(SAME)	—	—
	180		—	—
	181		—	—
	182	(SAME)	—	—
	185	(CHG) TO: "INSPECT ALL FASTENERS"	—	—
	186	(SAME)	—	—
	187		—	—
	188		—	—
	191		—	—
	193		—	—
	194		2	(12.0) 8.0
	195	(SAME)	2	(6.0) 2.0
	196	(CHG) TO: "CHECK ALL CONTOURS"	—	—
	197	(SAME)	2	(16.2) 12.2
	199	(SAME)	—	—
	200	(SAME)	—	—
	201	(REM) "BEFORE _____ FIXTURE"	—	—
	202	(SAME)	—	—
	203		—	—
	204		—	—
	205		—	—
	206		—	—
	207		—	—
169	208	(SAME)	—	—

BLDG	OPER	WORK TO BE DONE	M/P	TOTAL PROCESS HOURS
169	209	(SAME)	–	–
	210	(REM) "REMOVE ------ AND"	–	–
	215	(SAME)	–	–
	220	(SAME)	–	–
	250	(SAME)	2	(16.0) 12.0
	260	(ADD) "REMOVE FROM FIXTURE"	–	–
	270	(SAME)	–	–
	280		–	–
	290		–	–
	300		–	–
	310		–	–
	320		–	–
	330		–	–
	335		–	–
169	340		–	–
180	345		–	–
	350		–	–
	360		–	–
180	370		–	–
169	380		–	–
	390		–	–
	400		–	–
	410		–	–
169	420	(SAME)	–	–

TECHNOLOGY INSERTION PROGRAM
WR-ALC
MANPS - SHEET METAL SHOP

Bob Bashyam
Bill Rich

Possible Focus Study List

	Description	RCC
1.	Study to Improve Facilities Layout for Building 169	MANPSC MANPSA
2.	Study to Improve Facilities Layout for Building 603	MANPSD
3.	Study to Improve Facilities Layout for Building 670	MANPSD
4.	Redesign/Modify Existing Jigs/Fixtures Such As Aileron Jig (Make Working Jig in lieu of Solely a Check Fixture)	MANPSA MANPSC
5.	Redesign/Modify Existing Holding Fixtures so as to Rotate/Lock Part Being Repaired for Better Access and Less Worker Strain	All
6.	Study to Design Holding Fixtures (Customized Shape/Size to be Used in lieu of Flat-Top Tables)	All
7.	Study to Make a Fully Computerized "Work Book" (WCD) System in lieu of Current Unreadable "Paper-Mill"	All
8.	Study for CADAM Data Storage and Retrieval MASTER Demension Control System for General Tool Demensional Control as well as for Part/Assembly Data Source	All
9.	Study to Complement LIFT Plan and to Determine/Assign Priorities for New, More Modern/Diverse Sheet Metal Machinery, Facilities, and Equipment	All
10.	Feasibility Study for WR-ALC to Manufacture C-141 Petal Door Outer/Inner Skin Assemblies In-House	All

TECHNOLOGY INSERTION PROGRAM
WR-ALC
MANPS - SHEET METAL SHOP

Bob Bashyam
Bill Rich

Possible Quick Fix List

	Description	RCC
1.	Develop a Mechanic's "Hand Book" for Each Repaired Assembly	All
2.	Implement Mechanic "Buy-Maintain" (Buying Only Necessary Tools!) Tool-Set Program	All
3.	Provide Heavy Cardboard Shipping Boxes for Small/Medium Size Parts	All
4.	Move Bond Mechanics Closer to the Autoclaves	MANPSA MANPSC
5.	Provide Level Aileron Support Tables Until a Better Holding Fixture Can Be Provided	MANPSA
6.	Provide Better Quality Drill Bits in lieu of the Current Re-Sharpened Ones	All
7.	Provide Certain Mechanics with a Needed 45-Degree Angle Drill Attachment and an Approximate "3X" Rivet Gun (For 1/8"/5/32" Rivets)	All
8.	Provide Pictorial - Drawings with the Existing "Work Books" (WCD's)	All
9.	Review and Allocate Sufficient and Dedicated Work Space for Each Work Station	All
10.	In Conjunction with 2 Above, Reduce Size of Mechanics Tool Box to Approximately 1/2 the Current Size (Thereby Saving Much Valuable Space)	All
11.	Put More Emphasis on QP4!	All

Possible Quick Fix List (continued)

MANPS
Bob Bashyam
Bill Rich

	Description	RCC
12.	Include the Manufacturing Supervisor in ALL Task Force Formations When Quality/Production Would Be Discussed or/and Decisions Made to Affect Same	All
13.	Design/Build Aileron Tab Hinge Locator	MANPSA
14.	Design/Build a "Newspaper Clipping Cutter" to Cut the Thin Skins on the C-141 Horizontal Stabilizer Leading Edges	MANPSA
15.	Evaluate Cleanliness Condition in Work/Staging Area Near the Autoclaves in Building 169	MANPSA
16.	Review Safety Precautions in the Use of Methel-Ethel-Ketone (MEK), Depleted Uranium Counter-Balance Weights and Asbestos Clamps Used in Building 603 on the C-141 Wing Leading Edge	All
17.	Senior Mechanics/Supervisors/Alternates should Outline the Repair Processes for the Repaired Assemblies (to be Used in Conjunction with 1 Above)	All
18.	Implement Methodology to Eliminate Missing Petal Door Strake Parts	MANPSA
19.	Use "T" Material (Form in "W" Temper) in lieu of "O"	All
20.	Use Lockhead "Status" to Determine Latest Drawing/Effectivity	All
21.	Certify Mechanic Doing Repair Work on the Horizontal Stabilizer Leading Edges for "Ohmmeter" and "Brazing" Use	MANPSA
22.	Need "Window Area" Plot for F-15 Radome Repair Use	MANPSD

Possible Quick Fix List (continued)

MANPS
Bob Bashyan
Bill Rich

	Description	RCC
23.	Need Holding/Support Fixtures for ALL Radomes	MANPSD
24.	Move F-15 Canopy Repair Effort Out of Building 670	MANPSD
25.	Provide Capability to Brush Alodine for Building 603	MANPSD
26.	Remove C-130 Leading Edge (Unused) Jigs From Building 603	MANPSD
27.	Need Better/Larger/Cleaner Toilet Facility for the Women Mechanics in Building 603	MANPSD
28.	Need More Space for the C-141 Nozzles in Building 603	MANPSD
29.	Need More Space for the Radomes in Building 670	MANPSD
30.	Combine Repair Operations for the C-141 AFT Cowl Door to Use One (1) Mechanic in lieu of the Present Two (2)	
31.	Make Available to ALL ALC's Paul C. Bevan "Patch-Puller-Ring" for Fiberglass Repair	MANPSD
32.	Encourage Suggestions Like Wendell Pittman's Investigation and Persistence in His Investigation of Missing Petal Door Strake Parts	MANPSA
33.	Make Use of and Assign More Manufacturing Responsibility to the Planning Section for ALL Manufacturing/Engineering Coordination	
34.	Make Available Cobalt-Tipped Drill Bits, or Equipment, for Mechanic's Use for Drilling Out Fasteners	

Following are the Potential Improvements for Quick Fix.

10.0 WARNER ROBINS AIR LOGISTIC CENTER (WR-ALC)

10.1 QUICK FIX OPPORTUNITY TO DEVELOP A MECHANIC'S "HAND BOOK" FOR EACH REPAIRED ASSEMBLY. THE MECHANICS WOULD OUTLINE THE REPAIR PROCESSES FOR THE ASSEMBLIES BEING REPAIRED (MANPS).

10.1.1 Description of Current Operations

Most of the mechanic's training is received by actual "on-the-job" experience working with someone more experienced on the particular unit being repaired. Most experienced mechanics have made written notes to help guide them in the repair effort.

10.1.2 Description of Current Process Problems

The mechanic's sequence of tear-down, inspection and repair may vary compared with the WCD operation numbering. Certain peculiarities in the rework process may require a knowledge far in excess of the T.O. and the WCD instructions.

10.1.3 Description of New Process

Compile and publish a mechanic's training handbook written for each assembly being repaired in MANPS. The manual would compliment and supplement the Technical Orders and be compiled by training specialists using the experiences and input of the top mechanics currently doing the repair work as a guide. The training manual would be initiated to recognize the subtles of the repair process and would document all major steps and techniques of each repaired assembly unit. The Manual would be coordinated through the Training Monitor and the cognizent Process Engineer, Manufacturing Engineer, Planner, Production Supervisor and Quality People.

10.1.4 Rationale Leading to Change

The "Hand-Books" would help train new people in a rapid build-up such as a "Surge" or "War-Time" situation or in any crisis such as the present mechanics "turn-around" due to the F-15 wing effort or where a production rate increase would be necessary. Additional training and motivational courses would also be beneficial in conjunction with the "Hand-Books".

10.1.5 Estimated Cost Savings

Observations and interviews have indicated a potential average increase in efficiency for each new/old mechanic of 20% for the first 30 day period and a 10% increase therafter.

10.1.6 Implementation Cost/Schedule

Cost of an existing training specialist to coordinate the inputs is estimated to be $10,000 per anum (pro-rated).

Cost of preparing and reproducing each manual is estimated to $10 per copy.

Implementation could be realized in about 60 days from "Go-Ahead".

10.2 QUICK FIX OPPORTUNITY TO IMPLEMENT MECHANIC "BUY - MAINTAIN" TOOL-SET PROGRAM (BUYING ONLY NECESSARY TOOLS, THEREBY REDUCING THE SIZE OF THE TOOL BOX) (MANPS).

10.2.1 Description of Current Operations

All sheet metal mechanics are issued a standard set of tools, a tool box and a tool stand with drawers. Some of the tools have an everyday use, some have a limited use and some of the tools issued are never used: For example, the rivet guns issued have limited use while the most widely used gun, (3X type for 1/8" and 5/32" ad rivets) is not included - neither has a 45 degree pheumatic angle drill attachment been included. There are other instances.

10.2.2 Description of Current Process Problems

In some instances the replacement of a broken tool takes up to several weeks for replacement. In the interim, the mechanic either uses a "loaner" from the tool crib or borrows/shares a tool with a team member. These large tool box/tool stand occupy much valuable space and to reduce the number of tools would save much space, by requiring much smaller box/tool stands.

10.2.3 Description of New Process

Other repair facilities require the mechanics to buy and maintain their own set of necessary tools. These companies establish the requirements for the tool set and assist the mechanics in selecting the manufacturers of the tools. Inferior quality items that do not hold up and which constantly require replacement are eliminated. The tool manufacturers most often offer a life-time guarantee and a substantial discount to the mechanic because of the volume purchases. This has proven to be cost effective in many instances, for maintenance facilities such as Eastern, Delta, Hayes and Lockheed Air Service, etc.

One or two sets of "Limited-Use Tools" could be issued to a RCC repair area for general use.

10.2.4 Rationale Leading to Change

- The reduction of the number of tools/tool box/tool box stand by 50% would save much space.
- Eliminate/reduce tool crib manpower and storage area.
- Eliminate/reduce buying activity and expense.
- Provide the mechanic with the necessary tools to work with!
- Provide the mechanic with an expeditious way to replacd broken tools.
- Make the mechanic responsible for the tools that he uses to do his assigned tasks.

10.2.5 Estimated Cost Savings

Interviews have indicated a possible savings of 10 man hours per week for each mechanic if he/she had a proper "Tool Set".

Observations have shown that a reduction in size due to the mechanic having only necessary tools from 6.50 square feet to 3.25 square feet would also save approximately 3 square feet per mechanic. This would be a significant amount of space to be gained in Building 670, for example.

10.2.6 Implementation Cost/Schedule

The schedule and implementation cost would require further study and selection of tool needs, which would vary with each RCC, and tool suppliers.

10.~~4~~3 QUICK FIX OPPORTUNITY TO MOVE BOND MECHANICS CLOSER TO THE AUTOCLAVES OR ALLOW THE REPAIR GROUP CLOSE TO THE AUTOCLAVE TO DO THE BOND WORK (MANPSA).

10.~~4~~3.1 Description of Current Operations

In addition to other miscellaneous small bonded assembly units, there are approximately fourteen (14) frame and longeron assemblies for the C-141 Petal and seven (7) Leading Edge Sections for the C-141, Aileron which require the units to be rebonded when they undergo repair.

10.~~4~~3.2 Description of Current Process Problems

The Aileron parts are rebuilt in W. Blackmon's area adjacent to the autoclave area and returned to S. Williams' control after completion, but the Petal Door parts are rebuilt in T. Cherry's area and then sent to rebond by the Petal Door mechanic and returned to him after completion. This is not an efficient flow of work effort.

10.~~4~~3.3 Description of New Process

(Need to "certify" all mechanics in Bond Shop.)

Move those workers closer to the autoclave who work/repair small bonded assemblies such as the frame assemblies for the C-141 Petal Doors and the C-141 Aileron Leading Edges, thereby reducing time lost by going back and to. (Always make the transit worker responsible to the Supervisor who is responsible for the final inspection and buy-off of the unit being repaired).

An alternate way to eliminate to and fro travel by the mechanics would be to allow the repair group close to the autoclave to do all the bond work.

10.~~4~~3.4 Rationale Leading to Change

Centralizing the bonding of small rebuilt assemblies would tend to:

- Eliminate wasted time and steps.
- Produce consistently better quality work.
- Have the bonding operation in a cleaner and better controlled enbvironment.
- "Free" the "Home" mechanic to do more specialized work for which he is more qualified than others.

10.3.5 Estimated Cost Savings

It is estimated that a savings of 10 man hours per week could be realized.

10.3.6 Implementation Cost/Schedule

Cost of moving would be negligible and the schedule-to-move would be very flexible.

10.~~5~~4 QUICK FIX OPPORTUNITY TO PROVIDE LEVEL AILERON SUPPORT TABLES UNTIL A BETTER HOLDING FIXTURE CAN BE PROVIDED (MANPSA).

10.~~5~~4.1 Description of Current Operations

The support tables for the C-141 Ailerons are not all the same height requiring time and effort to level, per WCD instructions, before the Aileron can be worked. The Aileron must be level while skin work, hinge work, tab removal work or the leading edges are removed.

10.~~5~~4.2 Description of Current Process Problems

(The effort to level the tables has been in the planning stage for about a year or so, according to some interviewees in the area.)

10.~~5~~4.3 Description of New Process

Provide tables the same height to support the Ailerons (until customized cradle-type support holding fixtures are available).

10.~~5~~4.4 Rationale Leading to Change

The customized cradles will support the Ailerons and eliminate the "Man-handling" and "Flip-flopping" from side to side and also allow both sides and the beam/tab area to be worked simultaneously.

10.~~5~~4.5 Estimated Cost Savings

The level tables will save leveling time (usually 15-20 minutes) for 2 -3 mechanics and eliminate overhanging of the Aileron when tables are not available.

10.~~5~~4.6 Implementation Cost/Schedule

The cost and schedule of leveling the existing tables should be available through Kevin Warnock (926-4446).

10.~~6~~5 QUICK FIX OPPORTUNITY TO PROVIDE PICTORIAL - DRAWINGS WITH THE EXISTING "WORK BOOKS" (WCD'S) (MANPS).

10.~~6~~5.1 Description of Current Operations

The current copies of the WCD's (Work Books) are difficult to read and hard to understand. (This is true industry-wide.)

10.~~6~~5.2 Description of Current Process Problems

Mechanic personnel do not adequately use the WCD's for repair instructions! They do not make proper use of the T.O.'s either!

10.~~6~~5.3 Description of New Process

The Production Planner, with assistance from the Art Department, should provide a pictorial drawing, (exploded step-by-step drawing or otherwise), to accompany the "Work Book" (Work Control Document) to assist the worker to better understand the task and to help train others in a Surge or War-Time emergency situation.

10.~~6~~5.4 Rationale Leading to Change

New mechanics (and old mechanics, also) would be more productive and understand what they are doing if better work instructions were given them.

Most other repair facilities are using pictorial drawings to supplement the T.O.'s and the planning sheets, and quality has in most cases, improved considerably because the mechanic better understood what they were supposed to do.

10.~~6~~5.5 Estimated Cost Savings

It is estimated that the mechanic's efficiency would increase from 10% to 20% (but would vary with the individual) if he/she had a more comprehensive and understandable set of repair instructions to follow.

10.~~6~~5.6 Implementation Cost/Schedule

A full time illustrator to make the drawings would cost approximately $20,000 per year and could reduce the planning staff by a like number due to a reduction in contacts from manufacturing. An estimate of about 30 - 90 days to hire the necessary people and organize the effort would be required.

10.~~10~~6 QUICK FIX OPPORTUNITY TO DESIGN/BUILD AILERON TAB HINGE LOCATOR (MANPSA).

10.~~10~~6.1 Description of Current Operations

The current method, when a tab hinge bracket has to be replaced, is to use the tab assembly as a tool and locate the bracket being replaced by using the tab. This is rather difficult to do because the tab leading edge is in the way which makes it hard to position and locate the required shims behind the new fittings.

10.~~10~~6.2 Description of Current Process Problems

A hinge locator and alignment tool is sorely needed to assist the replacement of an aileron tab hinge fitting on the C-141 Aileron rear beam.

10.~~10~~6.3 Description of New Process

A simple bar type locator tool would be sufficient and speed up the task.

10.~~10~~6.4 Rationale Leading to Change

Observation and interviews with the supervisor and several mechanics indicated the hinges replacement was a problem.

10.~~10~~6.5 Estimated Cost Savings

The hinge replacement requires an average of 10 man hours per Aileron to replace the bad tab hinge fittings. This time would be reduced to approximately 1/2 of this or about 5 man hours with a bar-type locator tool.

10.~~10~~6.6 Implementation Cost/Schedule

The cost of a simple bar-type tool would be the primary cost involved:

- Material Cost = $500 (Steel tube and bar)
- Welding = 100 (4 man hours)
- Machining = 300 (10 man hours)
- Engineering = 500 (8 man hours)

10.~~11~~7 QUICK FIX OPPORTUNITY TO DESIGN/BUILD A "NEWSPAPER CLIPPING CUTTER" TO CUT THE THIN SKINS ON THE C-141 HORIZONTAL STABILIZER LEADING EDGES (MANPSA).

10.~~11~~7.1 Description of Current Operations

The thin .005 thick stainless steel cover skins for the C-141 Horizontal Stabilizer de-icer leading edge assemblies (8 per aircraft) must be removed in order to inspect and repair the embedded direct current wires and the heating elements.

10.~~11~~7.2 Description of Current Process Problems

The current way of skin removal is to cut and peel the cover skins using a wood chisel, tin snips, pliars, etc. to remove the skin without damaging the wires or the heating elements.

10.~~11~~7.3 Description of New Process

Design and make a depth cutter similar to the type cutter used to cut out newspaper clippings. This type cutter may be set to cut at a predetermined depth so as to cut the (.005) stainless steel thin skin cover and not cut the wires.

10.~~11~~7.4 Rationale Leading to Change

(Observation led to believing that a better way should be found.)

This new method of skin removal would allow the old skins to be removed in an easier manner thereby saving time and producing a neater and a more professional repair job.

10.~~11~~7.5 Estimated Cost Savings

A possible savings of two (2) man hours per leading edge section should be realized; for a total of eight (8) sections times two (2) equals sixteen (16) man hours saved per A/C.

10.~~11~~7.6 Implementation Cost/Schedule

The only cost would be the "Clipping-Cutter" design and machine costs which should not exceed $200. Machine time for the cutter should be under $100.

10.~~15~~8 QUICK FIX OPPORTUNITY TO USE "T" MATERIAL (FORM IN "W" TEMPER) IN LIEU OF "O" (MANPS).

10.~~15~~8.1 Description of Current Operations

Most all forming of aluminum for aircraft requires that the material be in soft condition, either in "O" condition or in "W" temper condition. Both conditions, "O" and "W" are of the same softness.

Most engineering drawings and/or material specifications call for the two material conditions to be used interchangeably.

10.~~15~~8.2 Description of Current Process Problems

It is hard to store "O" condition material, easy to damage, and handle because of it's softness therefore it is better to buy and store aluminum in the "T" condition. There is also the possibility of a part made out of the "O" material getting on the structural airframe of an air vehicle, inadvertantly.

10.~~15~~8.3 Description of New Process

The "O" material requires a heat treat operation after forming to bring the part to a hardened state or "T" condition. The "W" condition is produced by a heat treat operation from the "T" condition, formed into the desired state, then the material returns to a hardened "T" condition at room temperature without any further heat treat.

In the event that "W" condition aluminum alloy sheet is used in lieu of "O", the material must be stored in cold storage while it is awaiting it's time to be worked. It has a shorter work time when it removed from the "ice-box" due to the materials ability to return to a hardened state at room temperature.

It is suggested that certain selected parts such as reinforcement doublers and formed parts be looked at and made from "W" condition rather than "O" condition thereby reducing the inventory of "O" material and conceivably reducing material costs, by eliminating excess scrappage.

10.~~15~~8.4 Rationale Leading to Change

Other production and repair facilities do not use and stock aluminum sheet stock in the "O" Temper in the thickness of .064 or less because of it's softness.

10.~~15~~8.5 Estimated Cost Savings

The cost svings would be indicated on the present scrappage cost which would be eliminated.

Scheduling is not available at this time.

10.~~15~~8.6 Implementation Cost/Schedule

Implementation of this suggestion requires selection of parts and procedure change. Estimated implementation time approximately 2 months.

10.~~17~~9 QUICK FIX OPPORTUNITY TO CERTIFY MECHANIC DOING REPAIR WORK ON THE HORIZONTAL STABILIZER LEADING EDGES FOR "OHMMETER" AND "BRAZING" USE (MANPSA).

10.~~17~~9.1 Description of Current Operations

The mechanic (Amanda Knight) has to use an Ohmmeter to check the continuity of the wiring on the C-141 Horizontal Stabilizer leading edge sections. These sections form an electrically de-iced section of the horizontal stabilizer. All sections are repaired either by repairing the wires and welding breaks in the mesh.

10.~~17~~9.2 Description of Current Process Problems

The mechanic has to use the back shop on four (4) occasions for the use of the "Ohmmeter" or the "Welding Unit," usually making the trips herself, to verify the repair.

10.~~17~~9.3 Description of New Process

In repairing the leading edge sections, the mechanic has to use an Ohmmeter to determine the repair so why not make it official by certifying the mechanic in it's use as well as the welding required to make the repairs to the mesh heating element.

10.~~17~~9.4 Rationale Leading to Change

Discussed with Sonny Heard, Training, the possibility of training/certification of Amanda Knight and others, if necessary, to the use of the Ohmmeter and the Welding/Brazing unit which would eliminate the back shop work and the related expense of the mechanic hand carrying the parts to and from the electrical building.

10.~~17~~9.5 Estimated Cost Savings

The elimination of four (4) back shop operations would save 4 times 2 man hours = 8 manhours per part; 8 parts times 8 man hours equals 64 man hours saved per aircraft.

10.~~17~~9.6 Implementation Cost/Schedule

The mechanic has checked out an Ohmmeter for repair use. Kevin Warnock (926-4446) has moved a "welder" to Building 169 for the mechanic's use.

10.~~19~~10 QUICK FIX OPPORTUNITY TO NEED HOLDING/SUPPORT FIXTURES FOR ALL RADOMES (MANPSD).

10.~~19~~10.1 Description of Current Operations

The primary method of support for the radome repair in Building 670 is to place them directly on the floor. Some are elevated off the floor by the mechanics with 2 X 4's or other makeshift timbers.

Holding stands were made sometime back but are not being used and their whereabouts are now unknown.

10.~~19~~10.2 Description of Current Process Problems

Some workers have expressed a desire to have the radomes elevated for better access and comfort.

10.~~19~~10.3 Description of New Process

Holding stands/fixtures should be made to hold the radome on it's side and to allow the radome to be rotated. This method would be similar to the holding fixture currently being used with the C-141 nozzle repair effort.

10.~~19~~10.4 Rationale Leading to Change

- The radome would be accessible from one side thereby making better use of space.
- Less worker fatigue.
- Work efficiency increased.
- Production rate increased.

10.~~19~~10.5 Estimated Cost Savings

An increase of work efficiency from 10% to 15% is predicted which should increase throughput by a like amount for all radomes being worked in Building 670.

10.~~19~~10.6 Implementation Cost/Schedule

The schedule and implementation costs will require further study based on an austere-type stand design.

10.~~21~~11 QUICK FIX OPPORTUNITY TO PROVIDE CAPABILITY TO BRUSH ALODINE FOR BUILDING 603 (MANPSD).

10.~~21~~11.1 Description of Current Operations

Parts requiring alodine treatment have to be taken to Building 180, which is about two (2) miles distance from 603.

10.~~21~~11.2 Description of Current Process Problems

No alodine treatment is currently available because of the lack of waste treatment/disposal.

10.~~21~~.3 Description of New Process

Either one of the following:

(1) Step up the existing "Fast-Flow" pick-up and delivery system for the parts.

(2) Temporarily provide five (5) collection drums with adequate exhaust/vent system at Building 603 and transfer the toxic waste to a tank truck for disposal.

(3) Tie in to an existing waste disposal line at Building 645.

10.~~21~~11.4 Rationale Leading to Change

- Flow time will be reduced.
- Throughput will be increased.
- Cost will be reduced.

10.~~21~~11.5 Estimated Cost Savings

The estimated cost would be contingent on the decision as to the selection of (1), (2) or (3).

The (1) is estimated to be the least expensive and (3) the most expensive with (2) somewhere in between but only as a temporary measure. Number (3) would be the ideal method to provide treatment.

10.~~21~~11.6 Implementation Cost/Schedule

Implementation cost and schedule is contingent on the process selected:

(1) Shortest time to implement.

(2) Somewhere in between (1) and (3).

(3) Longest time.

10.~~24~~ 12 QUICK FIX OPPORTUNITY TO COMBINE REPAIR OPERATIONS FOR THE C-141 AFT COWL DOOR TO USE ONE (1) MECHANIC IN LIEU OF THE PRESENT TWO (2) (MANPSA).

10.~~24~~ 12.1 Description of Current Operations

The current way of reworking the C-141, AFT Cowl Door, is to have one mechanic to tear down the old assembly and salvage the salvagable hardware and miscellaneous parts and another mechanic in another area to repair/rebuild the bonded honeycomb section of the door. (A third mechanic is also involved by removing the door from the cowl - in another area.)

After the bonded section is completed, it is transported back to the "Tear-Down" area and reassembled by the first mechanic (who is not bond certified).

10.~~24~~ 12.2 Description of Current Process Problems

The current way of repairing the doors has no obvious problems with the exception of completion responsibility, and the excessive amount of flow time required between workers.

10.~~24~~ 12.3 Description of New Process

The entire operation for repairing the door should be done in one area and the part not moved back and forth from one area to another. The "Tear-Down" mechanic should be trained and certified for bond operations.

10.~~24~~ 12.4 Rationale Leading to Change

- Eliminate duplicity of effort.
- Decrease "Flow-Time".
- Provide more trained workers.
- Provide more versatile worker.

10.~~24~~ 12.5 Estimated Cost Savings

At least one (1) full time mechanic will be released for other work.

Flow time will be increased at least by the time required for the part to flow between the areas which is usually 4-6 hours per door.

By certifying ALL workers for bonding, a more versatile utilization of the worker is possible who in turn is more capable of training others.

10.~~24~~12.6 Implementation Cost/Schedule

This may be done immediately with a very little cost effect to implement.

10.~~28~~ 13 QUICK FIX OPPORTUNITY TO MAKE AVAILABLE COBALT-TIPPED DRILL BITS, OR EQUIVALENT, FOR MECHANIC'S USE FOR DRILLING OUT FASTENERS (MANPS).

10.~~28~~ 13.1 Description of Current Operations

The present lot of resharpened drill bits, especially the sizes normally used to drill out rivets and other type fasteners are not properly ground on center and the tips are softer than the normal quality of new drill bits.

10.~~28~~ 13.2 Description of Current Process Problems

These off-center and soft bits wander off-center when the fastener is drilled out sometimes enlarging the hole and requiring a backing strip, or making necessary the next size larger salvage rivet in the enlarged hole.

These drill bits are soft and consequently do not last - only a few holes - and they are dull.

10.~~28~~ 13.3 Description of New Process

Provide the Sheet Metal Mechanic with a better quality drill bit such as a Cobalt tipped bit, or equivalent, to be used on High-Value assemblies when drilling out rivets, other type fasteners such as lock bolts or blind rivets and bolts.

10.~~28~~ 13.4 Rationale Leading to Change

The current quality of resharpened drill bits is extremely poor, contributing to oversize and nonconforming holes, causing unnecessary work and much time lost.

Making available better quality drill bits for the mechanic's use, especially the sizes used to drill out fasteners will same time, money and provide a better quality product.

10.~~28~~ 13.5 Estimated Cost Savings

It is estimated that around 20 man hours are lost per unit every week trying to make quality work with these inferior quality drill bits.

Observation and interviews have indicated that most mechanics are not using the resharpened bits but are obtaining better quality drill bits from other areas such as the F-15 wing effort which is supplied with better quality bits.

10.~~28~~ 13.6 Implementation Cost/Schedule

Not available at this time.

Following are the Potential Improvements for Focus Studies.

10.A

~~10.3~~ 10.B

QUICK FIX OPPORTUNITY TO PROVIDE HEAVY CARDBOARD RE-USABLE SHIPPING BOXES FOR SMALL/MEDIUM SIZE PARTS (MANPS).

10.3.1 Description of Current Operations

Parts are currently being moved from one area to another by hand-carrying or by laying loose on a rolling hand cart while they are being transported.

10.3.2 Description of Current Process Problems

10.3.3 Description of New Process

Heavy cardboard, reusable boxes should be used to protect the smaller parts when they are transported from one area or backshop to another area. These are sometimes called "Banana Boxes" because they are about the same shape and construction as the boxes used to ship bananas. These boxes would be similar to the ones used in the tubing/cable shop to contain and transport parts.

10.3.4 Rationale Leading to Change

10.3.5 Estimated Cost Savings

Using these boxes with styrofoam and/or "bubble wrap" will minimize damage to parts being transported.

10.3.6 Implementation Cost/Schedule

10.B 6b

~~10.7~~ QUICK FIX OPPORTUNITY TO REVIEW AND ALLOCATE SUFFICIENT AND DEDICATED WORK SPACE FOR EACH WORK STATION (MANPS).

10.7.1 Description of Current Operations

Much confusion exists now in certain areas because of the lack of dedicated and sufficient space for the mechanic and the work he/she is required to do. Traffic cross-flow is bad and in some instances there is no assigned or dedicated work space for the mechanic to do his/her assigned task.

10.7.2 Description of Current Process Problems

The work space for a given repair task must be adequate to allow the work to be performed in the most timely and cost effective manner.

10.7.3 Description of New Process

Each work station must be designed and space allotted to allow the mechanic to do his/her assigned task without interruption from people passing by, cross-flow traffic from fellow workers, insufficient space and confusion.

As a stop-gap measure, (before an in-depth facilities layout can be made), each work station must be identified and permanently marked so that the mechanic assigned to that work station may work with a minimum of interruptions. Rails or fences should be considered to outline the stations.

10.7.4 Rationale Leading to Change

Observation of several areas in Building 169, such as the areas for the petal doors and ailerons for the C-141, led to this present condition.

10.7.5 Estimated Cost Savings

Time will be saved and/or work efficiency will be increased along with the production rate.

10.7.6 Implementation Cost/Schedule

Implementation cost would involve about 16 man hours to layout and mark that stations. Equipment needed such as rails are assumed to be available. The time to implement would approximate two (2) weeks for each area from go-ahead.

10.C

~~10.8~~ QUICK FIX OPPORTUNITY TO PUT MORE EMPHASIS ON QP4! (MANPS).

10.8.1 Description of Current Operations

Some RCC repair units do not have an active QP4 team. Those that do are not allotted the necessary time to be effective - manpower seems to be the problem.

NOTE: QP4 is currently being revised and restructured. It is suggested that more recognition and prestige be given the group.

10.8.2 Description of Current Process Problems

10.8.3 Description of New Process

More emphasis should be placed on the "QP 4" team effort and to use these groups with greater visibility and recognition as problem solvers.

Long standing complicated problems have a greater chance of being solved when a QP4 team is active in the area.

10.8.4 Rationale Leading to Change

10.8.5 Estimated Cost Savings

- More employee awareness and concern.
- Better quality realized.
- Better worker recognition and efficiency.
- Money saved.

10.8.6 Implementation Cost/Schedule

10.D DB

~~10.9~~ QUICK FIX OPPORTUNITY TO INCLUDE THE MANUFACTURING SUPERVISOR IN ALL TASK FORMATIONS WHEN QUALITY/ PRODUCTION WOULD BE DISCUSSED OR/AND DECISIONS MADE TO AFFECT SAME (MANPS).

10.9.1 Description of Current Operations

Decisions are sometimes made that affect the production effort or the quality of a repair unit without the Supervisor being told or asked to participate in the decision making process.

10.9.2 Description of Current Process Problems

10.9.3 Description of New Process

Better solutions to MANPS problems may be realized so that when a task force is formed, it is formed from individuals most knowledgable and intimately concerned with a solution to the problem, such as the Production Supervisor if the problem involves the production effort; or the Tooling expert if the problem involves a tool change; and the Planner if ANY change is contemplated in the work sequence or planning. The task force should always be headed up by the Production Supervisor if the problem involves production or quality.

10.9.4 Rationale Leading to Change

10.9.5 Estimated Cost Savings

- Better utilization of the Supervisors.
- Better quality.
- More Supervisor awareness.
- More cooperation from all concerned.

10.9.6 Implementation Cost/Schedule

10.E

10.12 QUICK FIX OPPORTUNITY TO EVALUATE CLEANLINESS CONDITION IN WORK/STAGING AREA NEAR THE AUTOCLAVES IN BUILDING 169 (MANPSA).

10.12.1 Description of Current Operations

Most lay-up is done in the Lay-Up Room in Building 169 which is a controlled and compatible environment for the use of adhesives and bonding materials used in the manufacturing of MANPSA work.

Some small patches and repair work is done in the teardown areas and in the staging area of the autoclave. There is not as much concern or attention given to bonding conditions and cleanliness in this as there should be.

10.12.2 Description of Current Process Problems

10.12.3 Description of New Process

A study should be conducted to determine if the conditions are adverse and if a plastic curtain dropped from the ceiling would help the situation. The sanding, drilling and working of metals/composites should be moved further away from the area where adhesive bonding is being done.

10.12.4 Rationale Leading to Change

10.12.5 Estimated Cost Savings

The major benefit to isolating the bonding from the fabrication will be to create a somewhat controlled environment which a requirement to the use of structural adhesives.

10.12.6 Implementation Cost/Schedule

10.F 03

~~10.13~~ QUICK FIX OPPORTUNITY TO REVIEW SAFETY PRECAUTIONS IN THE USE OF METHEL-ETHEL-KETONE (MEK), DEPLETED URANIUM COUNTER-BALANCE WEIGHTS AND ASBESTOS CLAMPS USED IN BUILDING 603 ON THE C-141 WING LEADING EDGE (MANPS).

10.13.1 Description of Current Operations

Two safety situations are prevalent in the aileron repair and adjacent areas concerning: (1) The use of Methel-Ethel-Ketone, which should not be used. "Safety Solvents" are available and are not as toxic and just as effective as MEK; and (2) Inadequate marking and warning to the mechanics and handlers of the Depleted Uranium counterblance weight used as the balance material for the weight.

The planners have addressed the problem of the depleted uranium with a vinyl cover but it is not used effectively.

10.13.2 Description of Current Process Problems

10.13.3 Description of New Process

The applicable T.O. lists all the precautions that must be taken to prevent undue exposure to the radioactivity of the material and the mechanics are aware of this. There is no awareness of the "heavy-metal" effects of ingesting ground depleted uranium powder or the fact that grinding or drilling causes sparking which would cause ignition. The Base Safety Engineer should address this problem.

10.13.4 Rationale Leading to Change

10.13.5 Estimated Cost Savings

Employee safety.

10.13.6 Implementation Cost/Schedule

P.G 83

~~10.14~~ QUICK FIX OPPORTUNITY TO IMPLEMENT METHODOLOGY TO ELIMINATE MISSING PETAL DOOR STRAKE PARTS (MANPSA).

10.14.1 Description of Current Operations

The Petal Doors arrive at WR-ALC to be inspected and repaired consistently missing the Strake which should accompany the door. This is an expensive group of parts! This is an expensive operation for every C-141 Petal Door to come in for repairs a NEW Strake has to be manufactured and shipped back out to stores!

Where are the missing strake parts? Who removes them from the Petal Door Assembly? By what authority are they removed? Records show that some of these parts have a value of $20 to $30 each and in many cases as many as twenty (20) parts are missing!

10.14.2 Description of Current Process Problems

10.14.3 Description of New Process

An investigation into this matter has been made and an employee was given a cash award for bringing this matter to the attention of his managers but no resolution to the problem has been effected as of this date.

10.14.4 Rationale Leading to Change

10.14.5 Estimated Cost Savings

(See Attachments.)

10.14.6 Implementation Cost/Schedule

10.H

~~10.16~~ QUICK FIX OPPORTUNITY TO USE LOCKHEAD "STATUS" TO DETERMINE LATEST DRAWING/EFFECTIVITY (MANPS).

10.16.1 Description of Current Operations

There seems to be a bit of confusion at WR-ALC as to how to determine the effectivity of a part or of a drawing revision. This is especially pertinent to the drawings and parts for the Lockheed C-130 and C-141 aircraft. When the Air Force bought these airplanes from Lockheed, they also bought the drawings and the drawing submittal system, which would be in accordance with the applicable MIL Specification for the drawing requirements.

10.16.2 Description of Current Process Problems

10.16.3 Description of New Process

It is possible that a phone call to "Status" at Lockheed each time could get an answer to a problem involving a part as to whether it is required on a particular Model or not.

"Status" could also be used to verify the latest drawing revision or Engineering Order (EO) change to a drawing.

10.16.4 Rationale Leading to Change

10.16.5 Estimated Cost Savings

- Time saved.
- Money saved.
- More confidence in working with Lockheed drawings.

10.16.6 Implementation Cost/Schedule

p.7 DB

~~10.18~~ QUICK FIX OPPORTUNITY TO NEED "WINDOW AREA" PLOT FOR F-15 RADOME REPAIR USE (MANPSD).

10.18.1 Description of Current Operations

There are approximately 150 F-15 Radomes in an "X" condition (a condition of maximum damage) which will require a maximum effort to repair in the near future for MANPSD, (Building 670).

10.18.2 Description of Current Process Problems

The F-15 repair T.O.'s do not give a "stay-out" or "window" area for the Radome to help guide the repair. Other T.O.'s such as for the C-130 Radomes give this information to establish repair limitations and help guide the mechanic making the repair.

10.18.3 Description of New Process

There is a need to establish the repair limitations for the F-15 Radomes. Hugh Darsey, (6)5374, MMFRB, Cognizent Engineer is working with the test range, (Building 675), people to derive information to define the repair limitations.

10.18.4 Rationale Leading to Change

In the event the repair limits are not defined it is probable that Radomes will be repaired and not be usable thereby wasting time, money, and effort.

10.18.5 Estimated Cost Savings

Cost savings not determinable, at this time.

10.18.6 Implementation Cost/Schedule

Not determinable at this time.

10.5 013

~~10.20~~ QUICK FIX OPPORTUNITY TO MOVE F-15 CANOPY REPAIR EFFORT OUT OF BUILDING 670 (MANPSD).

10.20.1 Description of Current Operations

The F-15 Canopy repair effort occupies only a small portion of Building 670 and the repair effort does not have sufficient space.

10.20.2 Description of Current Process Problems

10.20.3 Description of New Process

Additional space is currently needed and by moving the canopy effort out of the building more space will be available for the radomes.

The F-15 Canopy should be moved to an area closer to the sheet metal repair, Building 169.

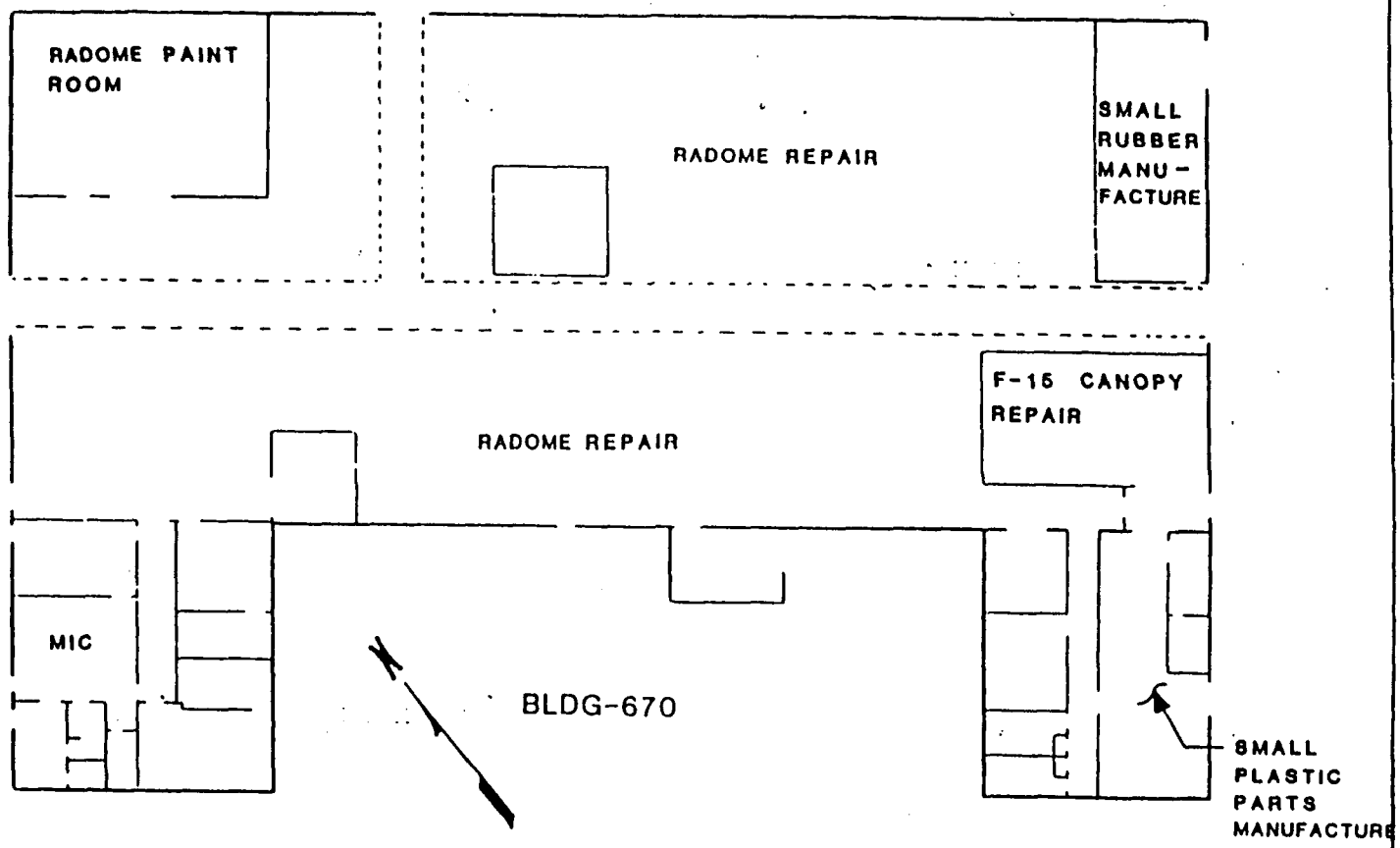
There is no GRID BOARD available to check the optical qualities of the transparancies when scratches are buffed out and the surface distorted.

10.20.4 Rationale Leading to Change

10.20.5 Estimated Cost Savings

Time will be saved and/or work efficiency will be increased and consequently the production rate increased. (See attached sketch.)

10.20.6 Implementation Cost/Schedule



INDUSTRIAL PRODUCTS DIVISION
DIRECTORATE OF MAINTENANCE, WARNER ROBINS AIR LOGISTICS CENTER

GOOD LAYOUT OBSERVATION

10.K

~~10.22~~ QUICK FIX OPPORTUNITY TO REMOVE C-130 LEADING EDGE (UNUSED) JIGS FROM BUILDING 603 (MANPSD).

10.22.1 Description of Current Operations

There are several unused C-130 Leading Edge jigs stored in Building 603 that are occupying much needed space needed for 4 - 6 additional nozzle stations.

10.22.2 Description of Current Process Problems

10.22.3 Description of New Process

Remove these jigs from the building thereby allowing the C-141 Nozzle effort to be expanded, as planned.

10.22.4 Rationale Leading to Change

10.22.5 Estimated Cost Savings

Space is at a premium in Building 603 and this space will be used to increase production rate for the C-141 Nozzle effort.

10.22.6 Implementation Cost/Schedule

10.L 88

10.23 QUICK FIX OPPORTUNITY TO NEED BETTER/LARGER/CLEANER TOILET FACILITY FOR THE WOMEN MECHANICS IN BUILDING 603 (MANPSD).

10.23.1 Description of Current Operations

The women's toilet in Building 603 has only one (1) commode for 6-8 women to use. Water stands in the general area of the toilet when it rains. The women have to go to adjacent buildings or either wait!

10.23.2 Description of Current Process Problems

10.23.3 Description of New Process

Provide better toilet facilities.

10.23.4 Rationale Leading to Change

10.23.5 Estimated Cost Savings

Increased worker comfort station and sanitary conditions.

10.23.6 Implementation Cost/Schedule

10.M

~~10.25~~ QUICK FIX OPPORTUNITY TO MAKE AVAILABLE TO ALL ALC'S PAUL C. BEVAN'S "PATCH-PULLER-RING" FOR FIBERGLASS REPAIR (MANPS).

10.25.1 Description of Current Operations

(See Attachment.)

10.25.2 Description of Current Process Problems

10.25.3 Description of New Process

(See Attachment.)

10.25.4 Rationale Leading to Change

10.25.5 Estimated Cost Savings

(See Attachment.)

10.25.6 Implementation Cost/Schedule

1 mm - copy

PAUL C. BEVAN'S COPY

NOTE*** THIS IS A CONFIRMATORY SUGGESTION.

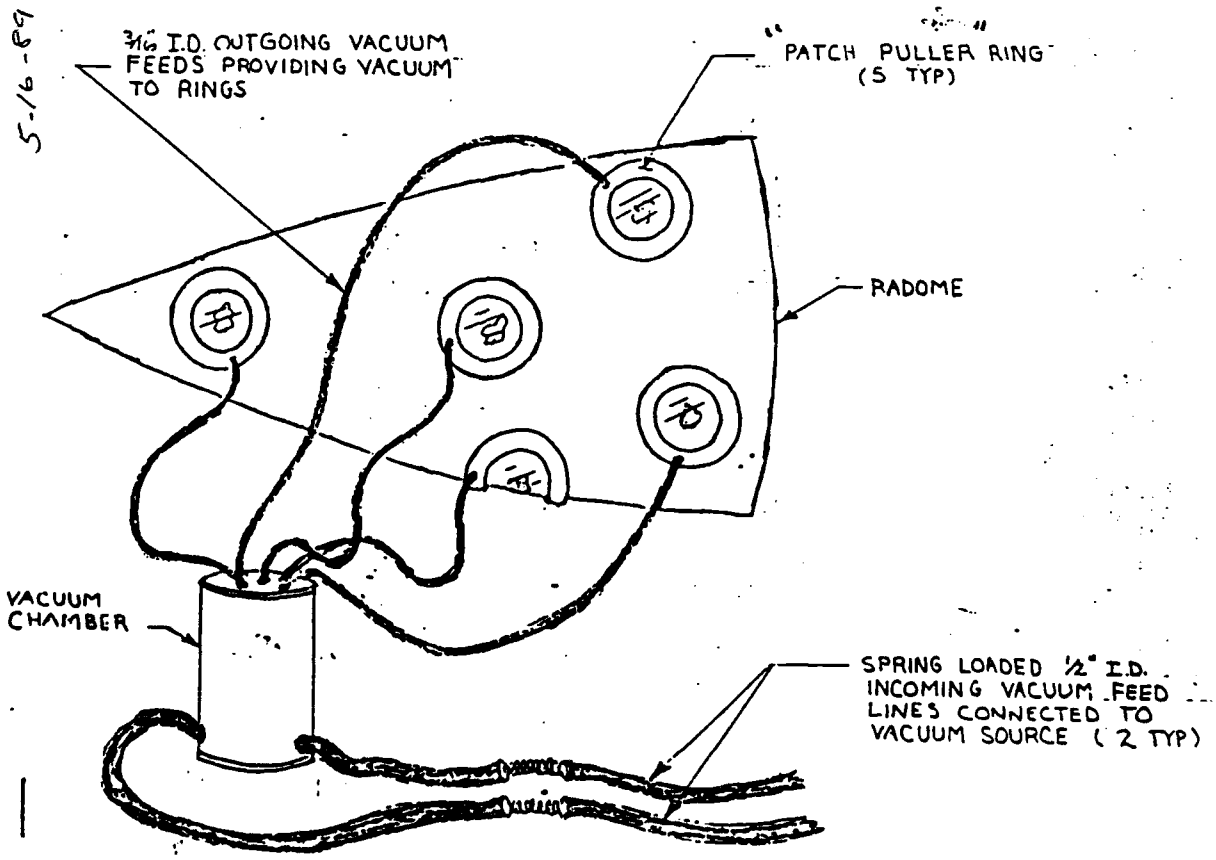
On 11-17-88, I discussed and demonstrated this concept in the presence of Jac Hambrick, David Turner, and Hugh Darsey. They were responding to an AFLC For 103 submitted by myself on 11-15-88. The 103 number is MANERS-8-558. I have attached a copy.

Problem: Present vacuum bag patching techniques are costly, both in labor a material. The government can reduce these costs.

Solution: I have prototyped and developed two systems that greatly reduce material costs and labor costs on the repair of fiberglass items. One syste was designed and developed to be used on the F-15 radome. It will work on a aircraft that has a radome of the same configuration as the F-15 radome. Af implementation of the system, 98% of labor cost and 98% of material costs wi be saved in the patch set-up procedure. Approximately seven labor hours per F-15 radome will be saved. This system is also effective in spot patching on all types of fiberglass and on many fiberglass items DoD-wide. Some examples are the C-130 radome, C-141 radome, C-141 tail cone, C-130 hat dome, and C-141 hat dome.

Some benefits of the F-15 patch puller follow:

5-16-89



1. Eliminates 98% of material used for patch set-up (tapes, spring, tacky ta

2. Eliminates 98% of patch set-up material handling, application, and remova

3. Eliminates any possibility of pulling up circs by eliminating adhesive ta presently used.

4. Functions effectively over grid wires, copper foil tape, radar balancing tape, and oil- or fluid-contaminated surfaces where adhesive tapes now used encounter problems.

5. Works effectively on interior and exterior surfaces

6. I have prototyped and developed the part and mold; no additional tooling needed.

7. Would be effective for field use in the form of an inexpensive kit. The kit would consist of cloth, resin, Mylar film, and patch puller ring. The system could be operated by a portable vacuum pump.

8. The system could be used throughout the Air Force on any aircraft having radome with a similar configuration.

9. The system could be used DoD-wide (Navy, Army, ANG, etc).

10. The system is effective in spot patching

11. All components of the system are durable and reusable.

The second system I have developed operates off the same vacuum concept. I have developed a 2-inch-wide band of urethane that vacuums to the radome surface. The system incorporates the vacuum band, a dual vacuum feed, 1-inch masking tape, zinc chromate, and spring. One vacuum source will have a trap built into the line to allow for bleed-outs. Set up and operation is as follows:

1. Vacuum band down to face of radome operating off a straight line vacuum source (no trap). The band will surround the repair area.

2. Once in place, apply the zinc chromate to the outside face of the band.

NOTE: After the chromate has been applied to the vacuum band on the band' first use, the chromate will stay in place and require very little handling f the next several patches. Periodic reapplication of the chromate may be required to insure effectiveness of the device. The zinc chromate serves as an adhesive for alcohol sheet or Mylar film.

3. Next apply the spring with 2-inch pieces of 1-inch-wide masking tape just outside the repair area and within the vacuumband.

4. Attach the vacuum feed with the trap to this spring. This will allow for excess air resin to be bled from the patch. The system will now be ready for use.

5. Apply patch material to repair area (per TO 1-1-24).

6. Activate bleed-out vacuum and stretch Mylar sheet over the repair, adheri the sheet to the chromate. The patch is complete.

This method will reduce tape use by 90%. Labor required for patch set up anc break down will be reduced by 70%. This will equate to an average of 6 labor hours saved per dome on the C-130 and C-141. I am in the process of making different sizes and shapes to accommodate different size and shape repairs. 1-1-24, pg 4-19, para 4-86 suggests that mechanics keep their repairs betwee 144 sq in and 324 sq in for best results. THis is not always practical. I have developed a vacuum band that will allow patches of 500 sq in to be pulle Based on the prototypes and the success of the system, pulling patches with areas of 1000 square inches and greater is realistic. The pullers are alreac applicable to 90% of the interior and exterior of the C-130 and C-141 radomes

Some benefits of the vacuumized band follow:

1. Eliminates 70% of material handling in patch set-up on C-130 and C-141 radomes (approximately 6 hours per radome will be saved).

2. Eliminates 90% of tape used during patch set-up.

3. Functions effectively over contaminated surfaces where tape may lose its adhesion.

4. Works effectively on interior and exterior surfaces.

5. Would be applable DoD-wide.

6. The vacuumized band is reusable and very durable.

7. Can be applied to numerous fiberglass items.

10.N

~~10.26~~ QUICK FIX OPPORTUNITY TO ENCOURAGE SUGGESTIONS LIKE WENDELL PITTMAN'S INVESTIGATION AND PERSISTENCE IN HIS INVESTIGATION OF MISSING PETAL DOOR STRAKE PARTS. CONTINUE INVESTIGATION TO ELIMINATE MISSING PETAL DOOR STRAKE PARTS (MANPSA).

10.26.1 Description of Current Operations

The Petal Doors arrive at WR-ALC to be inspected and repaired consistently missing the strake which should accompany the door. This is an expensive group of parts! This is an expensive operation for every C-141 Petal Door to come in for repairs a NEW strake has to be manufactured and shipped back out to stores!

Where are the missing strake parts? Who removes them from the Petal Door Assembly? By what authority are they removed? Records show that some of these parts have a value of $20 to $30 each and in many cases as many as twenty (20) parts are missing!

10.26.2 Description of Current Process Problems

10.26.3 Description of New Process

An investigation into this matter has been made and an employee was given a cash award for bringing this matter to the attention of his managers but no resolution to the problem has been effected as of this date.(See Attachment.)

10.26.4 Rationale Leading to Change

10.26.5 Estimated Cost Savings

(See Attachment.)

10.26.6 Implementation Cost/Schedule

THIS IS A COPY FROM THE "ORIGINAL"

TO: ALC/DPF/Donna Layfield

FROM: Wendell T. Pittman (926-4812)

DATE:

REF.: Reopen and Reevaluate Suggestion #863055

Ms. Layfield:

I would like to have this suggestion re-opened and re-evaluated.

I have been trying to get someone to realize that the Government could have been saving money since 1984. Nothing has seemed to have any effect.

The latter part of 1987 I contacted the Fraud Waste and Abuse Division and they checked into the matter. After an inquiry and finding that on a lot that Petal Doors coming to Depot Maintainance are stored on over half the doors. Out of 22 doors, 12 were minus strakes. If I remember right they had the suggestion re-submitted and it was further implemented by on through the General.

Some time around the first of the year I was instructed that a $250.00 settlement could be made on the suggestion or a $100.00 awared would be paid and the suggestion would be further evaluated. After a period of time I was told that the implementation process had been completed and that the personnel in the field could not or would not comply with the directives so therefore my suggestion warranted no further compensation.

On the 11th of December, 1980, the doors were numbered and logged coming into the shop. From then until 17 August 1984 some of the doors were marked with or without strakes. I wasn't there all this period of time so I can't verify that everything was logged. But I can authenticate the validity of these facts. From Door #819 thru Door #1131 ther were 96 doors sent to Depot Maintainance minus strake assemblies. At approximately 3,000.00 per strake this was a loss of 288 thousand dollars. From 17 August 1984 through January 1, 1988 I have no accurate count as to missing strakes except for the fact that out of even 20 doors 12 were missing strakes. Since my suggestion was implemented, there has been a drastic change from January 1988. July 15, 1988 the Petal Door shop has been delivers 34 doors for repair.

Out of these 34 doors only 3 have been minus strake. So as you can see this has been a tremendous reduction in lost strakes since my suggestion was put in force. Since 1981 my guess would be that over one half million dollars have been lost due careless and unattention. From 12 out of 20 doors missing strakes in the latter part of 1987 to 3 out of 34 door missing strakes should warrant a monetary re-evaluation. If you would please look into this matter for me.

Thanking you in advance,

Wendell T. Pittman
MANPSA/WR-ALC WRAFB/926-4812

cc: Shirley L. Wade, Manager
Air Force Management
Engineering Agency
Randolph AFB, Texas

Honorable Sam Nunn
U. S. Senate
Washington, D.C.

51454A Left Hand Strake Assembly

1560009466505	3F40353	279	$132.49
1560009466503	"	281	78.92
1560009466501	"	283	148.21
1560004656499	"	285	204.99
1560004653971JH	"	141	34.51
1560001823974JH	"	143	24.07
1560004605362JH	"	145	37.07
1560004653418JH	"	147	46.16
1560004653969JH	"	243	23.71
1560004600716JH	"	149	91.00
1560004603420JH	"	151	98.68
1560004660743JH	"	153	90.10
1560004653977JH	"	269	49.18
1560004907654JH	"	199	92.53
1560004907656JH	"	201	92.61
1560004907657JH	"	203	49.75
1560004907667JH	"	257	60.77
1560004907670JH	"	271	17.63

51455A Right Hand Strake Assembly

1560009466504	3F40353	280	$ 94.36
1560009466502	"	282	109.15
1560009466500	"	284	86.70
1560009466508	"	286	189.30
1560001825369JH	"	146	59.13
1560004653973JH	"	142	35.11
1560002243239JH	"	148	51.91
1560004653975JH	"	144	29.81
1560004653968JH	"	244	25.68
1560P0775322065	"	258	57.78
1560004603419JH	"	150	77.39
1560P0949672065	"	152	175.93
1560004603421JH	"	154	78.92
1560004653981JH	"	270	32.69
1560004657655JH	"	200	25.77
1560004907658JH	"	204	46.40
1560004907669JH	"	258	57.36
1560004907671JH	"	272	82.09
1560P077532F	3F40352	228	83.62

10.0

~~10.27~~ QUICK FIX OPPORTUNITY TO MAKE USE OF AND ASSIGN MORE MANUFACTURING RESPONSIBILITY TO THE PLANNING SECTION FOR ALL MANUFACTURING/ENGINEERING COORDINATION (MANPS).

10.27.1 Description of Current Operations

When the manufacturing people (mechanics) have problems pertaining to the engineering and other data requirements for a particular unit being repaired they most often contact the technical support people, such as the manufacturing, tooling, facilities, or materials engineer in a DIRECT contact manner.

Usually the mechanics are not as well-versed as the planner as to the overall part requirement and design intent and consequently should take the problem through the planner for him to make the contact.

10.27.2 Description of Current Process Problems

10.27.3 Description of New Process

Make better use of the Planning Section to help solve ALL problems involving the technical implementation of the Work Control Document (WCD).

10.27.4 Rationale Leading to Change

10.27.5 Estimated Cost Savings

When the planner is contacted he will be in a better position to:

- Assist the mechanic to prevent work stoppages.
- Revise the WCD, when required.
- Coordinate the production effort.
- Influence the standard hour requirement.
- Help solve tooling problems and requirements.
- Etc.

10.27.6 Implementation Cost/Schedule

10.P

~~10.29~~ QUICK FIX OPPORTUNITY TO STUDY TO OBTAIN BETTER QUALITY/DELIVERY FOR THE PETAL DOOR INNER/OUTER SKIN ASSEMBLIES FROM THE NEW SUBCONTRACTOR (MANPSA).

10.29.1 Description of Current Operations

The new inner skin and outer skin bonded assemblies for the Petal Door, which are made off-site at a Sub-Contractor, require inspection and repair work on the new assemblies before they are acceptable to be used. These new skins are sometime dented, scratched, have voids, have delaminations, etc. that require time and effort to fix before they can be used as acceptable parts. Also, the potted location for the attachment fasteners require re-potting in the honeycomb skin area due to not falling within the potted area. A cursory investigation shows that an increase in the potting area diameter from about one-half inch to about one inch could possibly eliminate the problem of re-potting. Most of the damage problems aforementioned are the fault of WR-ALC but the voids, delaminations, or core damage are most likely the fault of the Sub-Contractor.

10.29.2 Description of Current Process Problems

10.29.3 Description of New Process

Redesign the Petal Door Assembly jig to allow a greater amount of work to be performed in the jig without having to remove the parts so often. At the present time the skin assemblies and the frame parts require removal and replacement approximately six (6) times for each door. This could be reduced by adding a "Box-Jig" adaptation that would allow the skins to be folded back out of the way rather than removing the skins and the frame from the jig each time. More jigs are required for the current workload of Petal Doors.

10.29.4 Rationale Leading to Change

10.29.5 Estimated Cost Savings

An investigation team should be formed to ascertain how much time and money is being spent to rework these "New" Inner Skin and Outer Skin Assemblies and visit the new Subcontractor, if necessary.

A cursory investigation has also discovered that these skin assemblies frequently are not made to the correct contour! After reviewing the bonding capabilities and the autoclave facilities MDMSC has concluded that both of these skin assemblies should be made at WR-ALC!

10.29.6 Implementation Cost/Schedule

10.Q
GB

1~~0.30~~ QUICK FIX OPPORTUNITY TO MAKE BETTER USE OF QUALITY PEOPLE TO HELP SOLVE PROBLEMS RELATED TO THE REPAIR EFFORTS (MANPS).

10.30.1 Description of Current Operations

The Supervisors and their Designees often do not call the Quality Assurance Specialist to help solve problems arising from the repair effort.

10.30.2 Description of Current Process Problems

10.30.3 Description of New Process

The Quality Assurance Specialist should be used by issuing a Request for Quality Assistance (RQA) (AFLC Form 354).

The Quality Assurance Specialist will use the skills and facilities available to develop valid solutions or recommendations on all RQAs. Examples include: Quality Engineering, Methods Improvement Laboratory, chemical or materials laboratories, and subject matter specialists from other divisions or directorates. All corrective actions will be thoroughly coordinated with all activities having a primary or collateral responsibility.

10.30.4 Rationale Leading to Change

10.30.5 Estimated Cost Savings

Time will be reduced and/or work efficiency will be increased and as a result the production rate increased. (See attached copy of MAOI 74-2.)

10.30.6 Implementation Cost/Schedule

WARNER ROBINS AIR LOGISTICS CENTER
Directorate of Maintenance
Robins Air Force Base GA 31098

MA OPERATING INSTRUCTION 74-2

23 June 1988

Quality and Reliability Assurance

REQUEST FOR QUALITY ASSISTANCE (RQA)

This MAOI outlines procedures for submitting a Request for Quality Assistance (RQA). This instruction applies to all employees and organizations in the Directorate of Maintenance (MA).

1. **GENERAL.** The purpose of the RQA program is to provide all employees with a medium to seek solutions for a known or suspected problem on any product, process, system, or procedure that may adversely impact the quality of products or services produced by this activity.

*2. **REQUIREMENTS.** AFLC Form 354, Request for Quality Assistance (RQA), is a means of initiating requests to the Product Quality and Reliability Division (MAQ) when initial investigative actions have failed to remedy the problem. Anyone who recognizes or suspects a problem may initiate an RQA. The RQA will not be used for resolution of personal grievances, subjects covered by the Master Labor Agreement, matters under the jurisdiction of 40-series regulations, or items covered by other programs (component failures-use QDR, tech data errors-use AFTO Form 22, etc).

3. **PROCEDURES:**

a. Individuals requesting Quality Assistance will:

(1) Prepare AFLC Form 354 when a suspected or known deficiency is compromising the quality of a product produced by MA.

*(2) Complete all blanks of Part I of AFLC Form 354 and forward to the applicable Quality Branch (MAQ_). Routing through section and/or branch office is at the option of the applicable division. The form may be handscribed.

(3) State the deficient condition in sufficient detail to aid investigation; that is, include attachments, national stock numbers (NSNs), technical orders (TOs), etc.

(4) Assist Quality Assurance Specialist during problem review.

b. Applicable Quality Branch (MAQ_) will:

(1) Maintain an RQA log book reflecting the RQA control number, date request received, subject, initiator's name, office symbol, suspense date, and date project closed.

(a) The control number will be comprised of the Quality Branch symbol, the last two digits of the year, and the numerical sequence of the project (for example, MAQB-86-1).

(b) A suspense date of not more than 25 workdays will be established.

(2) Contact the originator of the RQA to obtain additional information as required.

(3) Perform a comprehensive evaluation concerning the problem identified through the RQA.

Supersedes MAOI 74-2, 18 Apr 86.
OPR: MAQSS (Sue Pierce)
Editor: Wanda B. Wood
Distribution: F,
X: AUDGN, MMIMF-Q, 2353 ABG/DAP.....1 ea

(4) Coordinate all findings/recommendations with responsible supervisors.

(5) Provide the initiator a thorough report, with recommendations, if applicable, within established suspense date. Also, provide copies to other organizations with an interest in or collateral responsibility for the problem or for actions associated with the solutions or recommendations. If evaluation cannot be completed within required suspense date, provide initiator with an interim status report.

(6) Initiate requests to effect changes to technical orders, regulations, or other directives when needed.

(7) Provide all recipients of the initial report with copies of all follow-on correspondence.

(8) Maintain a file on completed RQA actions in accordance with MAQOI 74-1.

c. The Quality Assurance Specialist will use the skills and facilities available to develop valid solutions or recommendations on all RQAs. Examples include: Quality Engineering, Methods Improvement Laboratory, chemical or materials laboratories, and subject matter specialists from other divisions or directorates. All corrective actions will be thoroughly coordinated with all activities having a primary or collateral responsibility.

d. Applicable personnel shall assist the Quality Assurance Specialist during evaluation process and assure corrective actions are taken when a problem is identified to their particular area.

FOR THE DIRECTOR

WALTER R. PEACOCK, Jr., Col, USAF
Chief, Resources Management Division
Directorate of Maintenance

1 Attachment
AFLC Form 354 (Sample)

REQUEST FOR QUALITY ASSISTANCE (RQA)

TO	FROM (Name, Organization, Extension)	DATE
MAQ N	Jane Doe/MANPM/3491	4 Apr 86

SUBJECT
(System/Item/Process)

PROBLEM/CONDITION/RECOMMENDATION (If needed, continue on reverse. Do not write below this block.)

(Define problem in sufficient detail, state previous actions taken to resolve problem, attach all pertinent information - drawings, previous correspondence, etc.)

SIGNATURE
(Signature of Initiator)

REPORT

TO	FROM	CONTROL NUMBER	DATE
MANPM	MAQ NM	MAQN-86-3	14 Apr 86

BENEFITS DERIVED/EXPECTED (If applicable)

(Provide findings, recommendations, action taken, and benefits derived.)

CORRECTIVE ACTION ON THIS REPORT IS

[X] COMPLETE [ ] PENDING [ ] NOT REQUIRED

MAQ MANHOURS
14 hrs

SIGNATURE	ORGANIZATION	EXTENSION
(Section Level)	MAQNM	2441

AFLC FORM JAN 86 354 PREVIOUS EDITION WILL BE USED SAMPLE — NOT TO BE REPRODUCED.